Commodity
Year Book
1980

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INTRODUCTION

The expansion in trading activity and wide price movements in futures during 1979 and early in 1980 are expected to continue as economic unsettlement and political unrest in many areas of the world affect the production, movement, or distribution of commodities. The feature studies in COMMODITY YEAR BOOK 1980 are intended to help the reader recognize and take advantage of unfolding trading opportunities.

Known primarily for its futures markets in copper and silver, the London Metal Exchange (LME) has attracted increasing attention as a facility for trading or hedging other metals, such as aluminum, lead, nickel, tin, and zinc. Metal prices are expected to be especially sensitive to economic and political developments in the period ahead. In "Understanding the London Metal Exchange (LME)," Arnold Brisk presents a detailed study of this market, including profiles of the metals traded, and how traders and hedgers can use the LME. Mr. Brisk, a senior commodity specialist in the Beverly Hills, California office of Bache Halsey Stuart Shields, Inc., is well versed in metals economics and has contributed previous studies on metals to preceding annual editions of COMMODITY YEAR BOOK.

World sugar prices in 1979 and 1980 soared to price levels not witnessed since 1975 as emphasis shifted from concern over existing large stocks to concern over reduced production, compared with anticipated consumption. In "Sugar and its Shifting Role in the World Economy," George T. Hirai examines in detail the important factors influencing world production and consumption of sugar. This study also shows how emerging supply demand factors, including sweetener substitutes and the energy potential of sugar, necessitate a shift in the price analysis of fundamentals. A section on the decision-making sequence for hedgers and traders is included. Mr. Hirai, formerly Manager, Tropical Products Department, of Bache Halsey Stuart Shields, Inc., and a highly regarded authority on sugar futures, is now vice-president, Marshall, French & Lucas.

With their production cycles in opposing phase, cattle and hog futures have presented ample trading opportunities in the livestock and meat complex. In "Spread Opportunities in Livestock Futures," Phillip E. Tiger discusses the major factors influencing spread prices between different trading months of the same commodity and between two different but usually related commodities in the meat complex. The article examines some popular livestock spreads, showing how they have presented profit opportunities in the past and how to assess their future profit potential. Mr. Tiger is a commodity futures specialist in the Washington office of Conti-Commodity, a subsidiary of Continental Grain Company. He is well-known for his extensive work in the field of commodity spreads, and has contributed to previous Commodity Year Books.

We are all familiar with cycles of one sort or another. But the study of cyclical behavior of commodity futures prices is one which has gained significant credence as a valuable tool for commodity price forecasting. In his amply illustrated feature study entitled, "The Role of Cycles in Commodity Price Forecasting," Walter J. Bressert shows how to identify, measure, and use seasonal and longer term cycles in the price analysis of specific commodity futures. Mr. Bressert, a pioneer in this area of price analysis, is president of HAL Commodity Cycles, Tucson, Arizona.

The Commodity Futures Trading Commission (CFTC) issues a report each month entitled, "Commitments of Traders in Commodity Futures," which provides a breakdown of month-end open interest by category of trader, including shifts in the composition of the market from the previous month. This report receives significant attention when it is released, usually 11 days after the end of the month being reviewed. In his original study which includes seasonal charts of commitments of traders for major commodities not available elsewhere, William L. Jiler shows how deviations from seasonal norms in the open interest commitments of large and small speculators and hedgers can be spotted and used as a valuable tool for commodity futures price forecasting. Mr. Jiler is the editor of Commodity Chart Service, and is president of Commodity Research Bureau, Inc.

We again wish to express our appreciation for the assistance furnished us by governmental agencies, commodity exchanges, trade associations and other organizations. They provided us with invaluable source material. These institutions are listed on page 4.

The Editorial Board
June 1980

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Chicago Board of Trade
Chicago Mercantile Exchange
Citrus Associates of the N. Y. Cotton Exch., Inc.
Commodity Exchange, Inc.—N. Y.
Commodity Futures Trading Commission
Copper Institute
Edison Electric Institute
F. W. Dodge Corp.
Federal Power Commission
Federal Reserve Board
General Services Administration
Gill & Duffus Ltd.
Glass Container Manufacturers Institute, Inc.
Handy & Harman
International Commercial Exchange
Media Records, Inc.
Minneapolis Grain Exchange
National Coffee Association of U.S.A., Inc.
New York Cocoa Exchange, Inc.
New York Coffee and Sugar Exchange, Inc.
New York Cotton Exchange
New York Mercantile Exchange
Newsprint Service Bureau
Nuclear Regulatory Commission
Portland Cement Association
Rubber Manufacturers Association
Rubber Study Group
Society of the Plastics Industry, Inc.
Tanners' Council of America, Inc.
Tea Council, Inc.
Textile Economics Bureau, Inc.
United Nations Organization
United States Department of Agriculture
United States Department of Commerce
United States Department of Energy
United States Department of Interior
United States Department of Labor
United States Bureau of Mines
United States Tariff Commission
United States Treasury Department
Winnipeg Commodity Exchange
Wool Services Co.
Zinc Institute, Inc.

THE COMMODITY PRICE TREND

The general commodity price level continued its upward trend throughout 1979 and into early 1980 before suffering a sharp drop. Both the CRB Futures Price Index and the Bureau of Labor Statistics Spot Commodity Index registered all-time highs during the early part of 1980.

Of the events shaping the commodity price trend in 1979, considerable credit must go to continuation of powerful oil-price-hike-induced inflationary forces. However, top billing must be given to political developments in the Persian Gulf area. The upward surge in precious metals prices quickened in late summer of 1979 on worsening of the political crisis in Iran, accelerated on the taking of U.S. hostages in November, and exploded on subsequent events in the Persian Gulf area highlighted by the Soviet invasion in Afghanistan. Some demand for precious metals, from large volume buyers in the Middle East and elsewhere, appeared to have been motivated as much by the expectation that precious metals would retain their value as a haven for funds in times of unusual political and monetary unrest as by anticipation of even higher prices in the future.

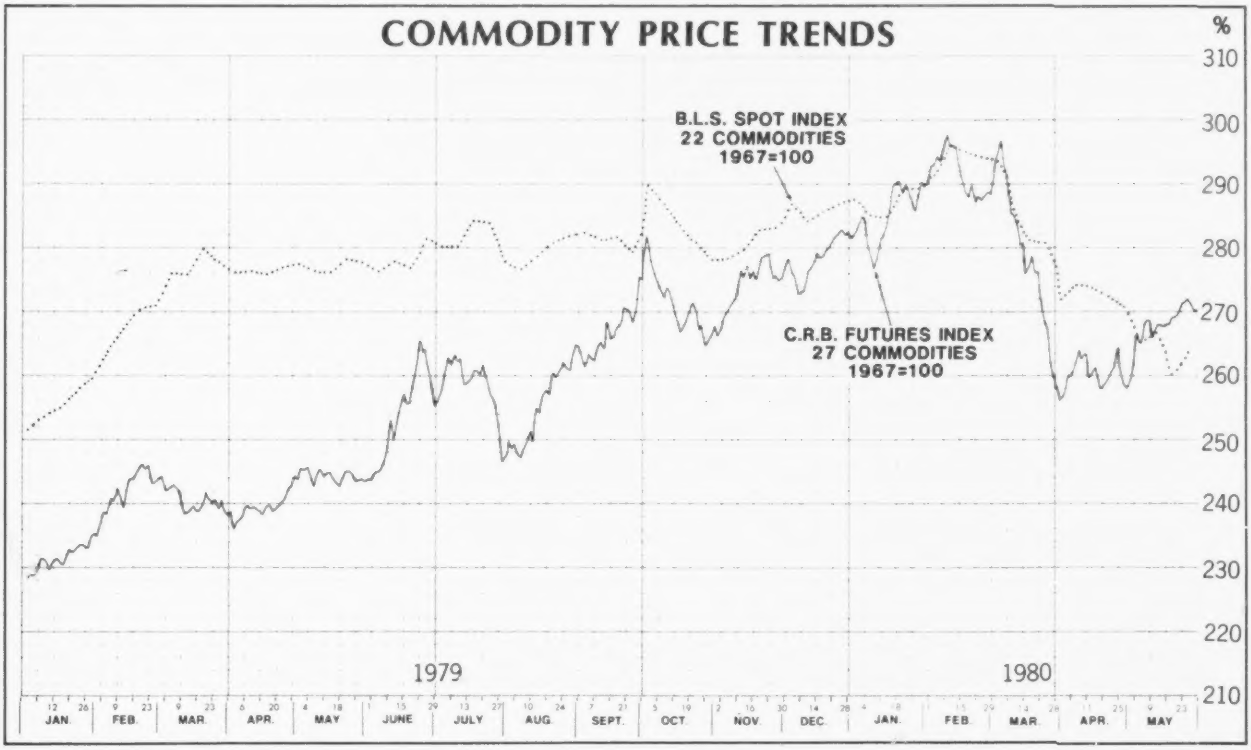
Surprisingly, the steepest part of the rise in the CRB Futures Price Index in 1979 was accomplished without help from the grains and oilseeds, whose price movements were sluggish at best. Demand was concentrated in the precious metals, and to a lesser extent in cotton, copper, and sugar. This was in marked contrast to the "flight from currencies" in 1974 which had brought the CRB Index to a record high to that date of 237.8 (1967 = 100), and in which the grains participated.

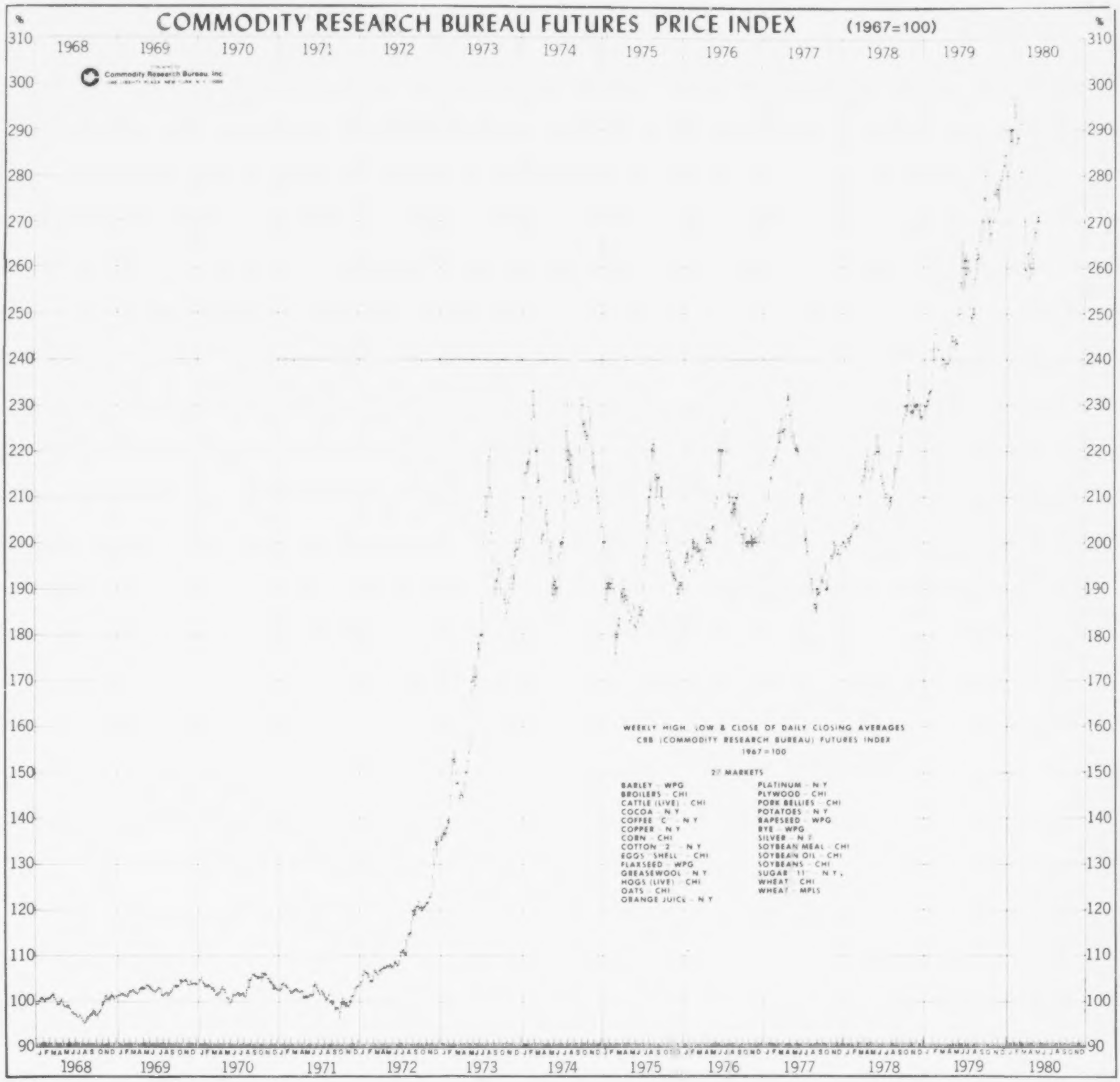
At the same time, steps by the Federal Reserve Board to curb rampant inflation by making credit less available and more expensive helped to drive interest rates to unprecedented levels, culminating in a 20 percent prime rate by early April 1980. The extended rise in interest rates discouraged the acquisition and carrying of many commodities at a time when the economic outlook became increasingly uncertain in the second quarter of 1980.

The U.S. dollar's foreign exchange value declined against most major currencies in 1979, influenced by further OPEC oil price increases and events in Iran and Afganistan. However, in early 1980 the rising interest rates on U.S. dollar-denominated assets, influenced by the Federal Reserve's anti-inflation measures, created increased incentive for foreign investors to place funds in the U.S. Their purchases of dollars to buy U.S. dollar assets led to a sharp but temporary strengthening of the dollar vis-a-vis major currencies during the first quarter of 1980.

The domestic purchasing power of the U.S. dollar, as measured by producer prices, continued to decline throughout 1979 and into 1980. In April 1980, the purchasing power of the dollar (1967 = $1.00) was 41.7 cents, down 12 percent from 47.3 cents in April 1979.

At midyear in 1980, the battle lines between virulent inflationary forces and increasing evidence of a deepening recession were being drawn. The commodity price outlook was also clouded by other broad considerations, such as political unrest in many areas, foreign government hedging activities in U.S. futures; an increasing tendency to use food as a political weapon; and the prospect of increased U.S. government regulation of commodity futures, in part due to the recent wild gyrations in silver futures in 1979 and early 1980.


COMMODITY PRICE TRENDS

COMMODITY RESEARCH BUREAU FUTURES PRICE INDEX (1967=100)
%
Commodity Research Bureau, Inc.
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
J F M A M J J A S O N D
WEEKLY HIGH LOW & CLOSE OF DAILY CLOSING AVERAGES
CRB (COMMODITY RESEARCH BUREAU) FUTURES INDEX
1967=100
27 MARKETS
BARLEY - WPG
BROILERS - CHI
CATTLE (LIVE) - CHI
COCOA - N.Y.
COFFEE "C" - N.Y.
COPPER - N.Y.
CORN - CHI
COTTON "2" - N.Y.
EGGS "SHELL" - CHI
FLAXSEED - WPG
GREASEWOOL - N.Y.
HOGS (LIVE) - CHI
OATS - CHI
ORANGE JUICE - N.Y.
PLATINUM - N.Y.
PLYWOOD - CHI
PORK BELLIES - CHI
POTATOES - N.Y.
RAPESEED - WPG
RYE - WPG
SILVER - N.Y.
SOYBEAN MEAL - CHI
SOYBEAN OIL - CHI
SOYBEANS - CHI
SUGAR "11" - N.Y.
WHEAT - CHI
WHEAT - MPLS

UNDERSTANDING THE LONDON METAL EXCHANGE (LME)

BY ARNOLD BRISK

Economic and social historians can already look back and conclude that we blew it in the Seventies.

The decade was dominated by a steady stream of fiscal and monetary disasters and debacles: high taxation, low regard for the dollar, stagflation, government overregulation, and—the killer—oil prices that were pumped up almost monthly toward the end of that ten-year stretch.

Aided by hindsight, it is safe to say that overall the country managed these problems rather badly. Government leaders, whose viewpoints and attitudes were forged in the Fifties and Sixties, perceived the United States as an "affluent society" whose overriding objective was a better quality of life through an equitable redistribution of wealth, income and opportunity. Clearly, they were not prepared to cope with the bleak realities of the Seventies. To make matters worse, they were slow learners.

Commodity traders, however, adjusted better than the bureaucrats to the realities of the Seventies. But it certainly was not easy. Basic foods, fibers, industrial and precious metals prices doubled, even tripled in a matter of months, sometimes fully reversing themselves. Fundamentalists, those who make decisions based on supply-demand studies, had tremendous difficulty comprehending those price changes. The problem was that economic factors outside the purview of any one commodity altered the manner in which prices had to be analyzed.

Ironically, even commodity users did not understand what was happening at first. They failed to participate in inventory profits. And, just as adaptation to the Seventies was needed, new thinking will be needed in the Eighties.

The current decade had a shocking start. On January 1, approximately 50 Americans were languishing in the American embassy in Tehran; they had been there since November and as this was written, prospects were bleak for their release. This unthinkable dilemma was followed by a Soviet military occupation of Afghanistan. Both acts tested the United States' diplomatic skills, and the world waited for a response. Indeed, these actions became the prologue to a tense drama that is certain to unfold in the decade ahead. While the Seventies were dominated by domestic economic policies, the Eighties will be dominated by military and foreign affairs. But, economic events will not be thrust entirely into the shadows. Inflation is still running rampant.

The post–World War II international order is falling apart. The current body of thought about American foreign policy stemming from World War II's era of triumph is swiftly becoming irrelevant. Even NATO is becoming irrelevant as world respect for the U.S. leadership position falters. American foreign policy in the Eighties therefore will be based on power and the readiness to use it.

The economic problems of this decade will be triggered by what economists call "exogenous shocks"—events occurring elsewhere in the world that require America to respond. The most obvious example of this is the American embassy takeover in Tehran. The subsequent repercussions will be felt on economic seismographs in financial centers around the world.

To be sure, the Eighties are going to be what Kipling called the "Great Game." The major powers probably will employ a non-fuel minerals strategy; *metals* will be a crucial element in the strategic thinking and planning of virtually every developed and Third World country. What is significant here is that metal prices will be influenced by the planning sessions in chancelleries around the world, by new alliances and by political jockeying for power. The action of Third World dictators, Latin American generals, and international financiers, not to mention idle rich sheiks, will affect the basic values of *everything*, especially metal prices.

The scramble for leverage and power in the 1980s will not be influenced by jut-jawed generals or John Wayne fantasies of good triumphing over evil. The victor, or at least the position of prestige, will be captured by the nation or nations that dominate the globe as a prime supplier of metals.

For that reason, a greater understanding of the London Metal Exchange is necessary for every person even remotely connected with metal trading. It is an important arena, and its importance can only grow in the decade ahead.

Origin and Growth of LME

The history of organized metals trading in Europe can be traced back to the 1870s. London was alive with metal dealers who were informally trading a growing volume of metal, mostly copper and tin. In 1876, a group of these dealers formed the London Metal Exchange Company (LME) to establish a trading floor and set some formal trading guidelines. The 300 members rented a room in Lombard Court, hired their first secretary and acquired their first telephone.

The industrial revolution spurred world trade and defined the role and needs of the metal producers, merchants and consumers. Mine owners, for example, wanted to sell unmined production for delivery at a future date. They wanted the ability to take advantage of a price rise and an assured price for future shipments so they could gauge their cash flow. Merchants buying from producers in one part of the world and selling to consumers thousands of miles away had to assume all risks of ownership—from time of purchase to time of sale, often several months later. These merchants needed a market to "lay off" part of that risk. Consumers also needed price protection against adverse price fluctuations from the date they purchased their raw materials until they were sold as a finished product.

When the LME was organized, the metal trade switched from an "arrival" contract to a "forward" contract. Arrival contracts dealt in different qualities, quantities and delivery dates. Contracts were made for certain grades deliverable at different future dates. Matching buyers and sellers with these terms was a slow, uncertain process. But the unofficial, spontaneous development of a standard forward contract resolved that.

Traders entered into forward contracts for a standard grade of each metal. The standard grade of copper was Chile bar, the most actively traded grade at the time. Delivery points for forward contracts were established by custom and convenience.

It soon became practice to deal for spot delivery and up to three months ahead. That's how long it took to ship copper from Chile to London. Deals were eventually transacted in uniform lots: 25 tonnes (metric tons) for copper, 5 tonnes for tin. (Lead and zinc trading didn't start until the 1920s.)

Adoption of the futures contract created a new sophisticated trading practice—hedging. Metalmen found they could continually maintain price protection by closing out a forward transaction before it matured and simultaneously purchasing or selling a more distant contract. Actual delivery of the metal could be avoided by simply passing the futures position on. In essence, the futures market was a substitute for price and/or time.

The broad contract specifications discouraged consumers from buying their production requirements on the exchange. They satisfied their needs for individual grades and shapes by entering into private contracts—off the exchange—with exporters and merchants. However, since actual delivery was set for a future date, the price was usually related to the LME price on date of delivery or some other mutually agreed upon date. These LME formula contracts poured the foundation for modern producer/consumer contracts under which the bulk of today's primary metals, including ores and concentrates, are traded.

Price quotations in the 1870s were chancy and unreliable. Newspapers and telegraph companies circulated market reports, but they were scattered and usually identified their source only as "an eminent house in the trade." Quotations did not always reflect actual prices and were not unanimously accepted. As the London Metals Exchange developed an international following, metalmen thought quotations should be identical to values on the trading floor and reflect the general tone of the market. When the new exchange floor opened, uniform telegraphic quotations and information—perhaps the crucial elements in commodities trading—were provided.

The practice of dealing metals around a "ring" rather than in small clusters started in the late 1870s. Each day an exchange member drew a large chalk circle on the floor and cried out "ring." Members then stood around the circle and yelled out their bids and offers.

In 1880, the present constitution of the exchange was written, the first subscribers committee was elected, and its present headquarters on Whittington Avenue was built. Between 1880 and the outbreak of World War I, the exchange evolved; the procedures, customs, traditions and terms we use today grew out of those formative years.

The Exchange has remained in the same "digs" for the past 98 years. Ironically, the minor inconveniences of 1880 have now come full circle. Today the LME's facilities are overcrowded and inefficient.

Jostling floor traders have difficulty reading hand signals flashed by their telephone order clerks. Some traders whose phone booths are deep in the back of the exchange floor must jog back, wave and shout to their phone clerks. But the congestion will be relieved soon. The LME is scheduled to move to larger, modern quarters in nearby Plantation House later in 1980. The new air conditioned trading floor will be twice as large, containing two rings and better locations for telephone booths.

The LME is poised for new growth. Since World War II, Britain had restrictions on the movement of the pound sterling. The Bank of England always viewed futures trading as an avenue for moving assets out of the country. But, the Bank's removal of exchange controls last October was an indirect signal to the British commodity industry to pursue new business and explore new markets.

Trading on the LME

Trading on the LME commences daily just before noon (London time) when members take their seats in a circle called the "Ring." Silver is the first metal to be traded. Members shout bids and offers across and around the ring for exactly five minutes before trading is halted. Each metal is traded in the same manner—again for five minutes. Then a recess is called to allow dealers time to telephone their respective offices.

Trading is then resumed; however, this time copper is given *two* five-minute periods, one for wirebar and one for cathodes. At the end of the second call, a three-member "fixing committee" meets and announces three prices for each metal except silver: Cash, three-month, and settlement. Silver merits a fourth price—seven months—which also is announced. Any member may appeal a pricing if he feels the committee's prices do not reflect the session's activity.

This process is referred to as the first or morning session, and prices are official. There is also a second or afternoon session. Volume is often greater than in the earlier session, but prices are considered unofficial.

Prior to and after each session, ex-Ring transactions take place. They are called "kerb" dealings because they once took place on the "kerb." When trading is heavy, the New York based LME member firms will quote kerb prices long after London brokers have gone home, even after Comex has closed.

A Principals Market

The London Metal Exchange has a unique organizational structure. Unlike other exchanges, where brokers act as agents for their customers and where each floor transaction is reported to a clearing house, the LME is a principals market. Members are solely responsible to their customers and to each other for the settlement of contracts they enter into. They are principals, not agents, in a transaction.

This system means profits cannot be remitted until the settlement date, which is also the prompt date. For example: On October 22, a trader places an order to buy 25 tonnes of wirebar with a prompt date of December 17. His broker buys from dealer "A." On November 3 the contract is sold at a profit. The sale could have been made to any number of dealers other than dealer "A." The trader's broker will not issue a check for the profit, since he cannot collect the proceeds of the sale until December 17, the prompt date.

Commercial hedgers like the principal concept for several reasons:

1. The principals market attracts large hedgers because they are not required to deposit margin. Meeting margin calls can affect their cash flow. This is observable by the fact that more than 75 percent of LME business is done by the trade, while less than 20 percent of Comex business is done by the trade.
2. The principals contract allows LME members to trade at any hour of the day or night. Between 70 and 80 percent of LME business is international. Members deal with overseas producers, fabricators and smelters whose business day starts long before or after the LME opening or closing. With round-the-clock trading, total LME volume is much larger than official Ring volume indicates.
3. There are no daily trading limits. Prices are allowed to fluctuate freely. It is believed by the London metal fraternity that limit moves lock in buyers or sellers and tend to distort prices artificially.
4. A principals contract allows transactions to be tailored to individual dates. A hedger can tie his hedge to a specific lot of material, then remove the hedge on date of pricing.

Given the fact that the LME is the world's only commodity exchange without a central clearing house to spread financial exposure, it is surprising that there have been only four bankruptcies in its 101 year history. The LME, in view of recent growth in its volume, price volatility and increase in the amount of money at risk, introduced the Metal Exchange Monitoring Operation (MEMO) in June 1979.

MEMO requires ring members to supply details of all transactions and to stay within prescribed financial limits. To date, most observers say MEMO's main contribution has been to make members more aware of their own internal risk exposure.

For bookkeeping purposes, LME members close out prompted trades through a clearing system similar to the clearing systems used by U.S. stock exchanges. Each day, members submit a tally showing long and short positions which mature the next day. The LME collates these tally sheets and advises those members with a net short position to deliver warrants directly to those members with net long positions.

London Dealer Market

The London dealer market is composed of large non-ferrous metal dealers, international bullion finance houses, stock jobbers and some brokerage firms. Most dealers are also LME member firms.

Those merchants dealing in non-ferrous metal buy and sell outside the producer market. Independent refiners and fabricators with excess inventory are their main supply sources. Their outlets are fabricators and manufacturers who need tonnage sooner than producers can deliver. Dealers do not invest in mine production and rarely in refining facilities but do invest in large inventories. Merchants engage in worldwide arbitrage and account for a significant percentage of physical deliveries into LME and Comex warehouses. The prices of merchant (dealer market) metal correspond very closely to LME prices.

International bullion finance houses and smaller precious metal dealers trade gold, silver, platinum, and other precious metals.

A stock jobber, sometimes referred to as a stocklist, is one who inventories semi-fabricates, such as copper tubing, for sale to fabricators or end consumers. They are usually highly specialized in one of three categories: steel/stainless steel; aluminum; copper/brass/bronze; or exotic metals and alloys. They operate similarly to non-ferrous dealers and are usually affiliated with or owned by these merchants.

In many respects, the dealer market is similar to the U.S. over-the-counter securities market. Buyers telephone dealers, describe their needs—tonnage (ounces in the case of precious metals), brand, deliver date and destination—then wait for dealers to telephone back with price quotations. The dealer quoting the lowest price gets the orders. Companies with excessive supplies can just as easily sell into the dealer market. Trading is not restricted to exchange hours; it is conducted throughout the day. Most London dealers have New York offices or correspondents who continue trading after London business hours. Although any quantity may be traded, most transactions are substantially larger than LME contract sizes.

Should the world be disrupted by war, labor strikes or some natural occurrences (earthquake), the demand for metal can suddenly shift. During these adjustment periods, market participants (importers, exporters, fabricators, and manufacturers) find they misjudged their requirements and resort to the dealer market. The dealer market's function is to supply materials when consumers can not get sufficient quantities from their traditional supply sources and to absorb excess material when demand declines.

Delivery can be made on any mutually agreed upon date, even distant months. Terms are usually payment on receipt of material. Longer term agreements are transferable. In effect, they are forward contracts. For example, if a consumer buys 400 tonnes of wirebars in August for October delivery, then decides in September that he no longer needs the copper, he can sell the contract back to the original dealer, or any other dealer. Since terms are payment on receipt, one has, in essence, bought copper futures with no margin deposit.

While the dealer market is dominated by professionals, a private investor can participate by phoning one or more London dealers or his New York office. A dealer list, broken down by metals dealt in, is in METAL STATISTICS, published annually by AMERICAN METAL MARKET and available at many public libraries.

Non-Ferrous and Precious Metals Traded on LME

There are about 80 metallic elements in the periodic table. Those that are not related to or contain iron are defined as non-ferrous. Non-ferrous metals can be classified into four categories:

1. Industrial metals, such as copper, lead, zinc, tin, aluminum, and nickel;
2. Precious metals, such as gold, silver, and the platinum group of metals;
3. Minor metals—such as selenium, germanium, indium, and gallium—that are by-products of other metals and are used in semiconductors, photocells and rectifiers;

4. Refactory metals—such as columbium, and tantalum—that are used as alloying agents for both ferrous and non-ferrous metals.

The demand for non-ferrous metals has shown strong global growth. When industrialized countries mature and enter an era of electronics and high technology, they consume less metal per capita. But as less developed countries start industrializing, they consume more metal per capita, picking up the slack. This overall consumption growth rate continues, even though known reserves are finite and mining costs are rising. This paradox has not gone unnoticed by investors who feel it will cause prices to rise in the long run.

On a worldwide scale, the metal industry—mining, smelting, refining, manufacturing and distributing—is second only to agriculture in terms of earnings. It is a lengthy process from extraction to ultimate consumption: a capital-intense mining infrastructure including exploration, mining, transportation; processing including concentrating, smelting and refining; finance; trading; manufacturing; and finally marketing. At the onset of the industrial revolution, pricing and trading were dominated by the consuming industrial countries. This is changing.

In most producing countries, the host government controls mining, directly or indirectly. In Western countries, control is through direct or joint ownership. In communist bloc countries, where there are vast, untapped mineral deposits, production is entirely state controlled. Government control of or influence on metal production means that the old economic laws of supply and demand are being ignored. In government-controlled countries, national interests have priority over purely economic considerations.

With a natural desire to generate greater earnings from their mineral deposits, producing countries are attempting to process metal beyond the mining stage. This creates more employment, more foreign exchange earnings and a greater opportunity to develop an industrial economic base. Some developing countries are already smelting and refining. The next logical step would be to produce semi-fabricates, then to manufacture for the ultimate consumer. If the trend continues, it will shift the processing and manufacturing functions away from the industrial countries to the developing countries, thereby shifting the price-influencing power.

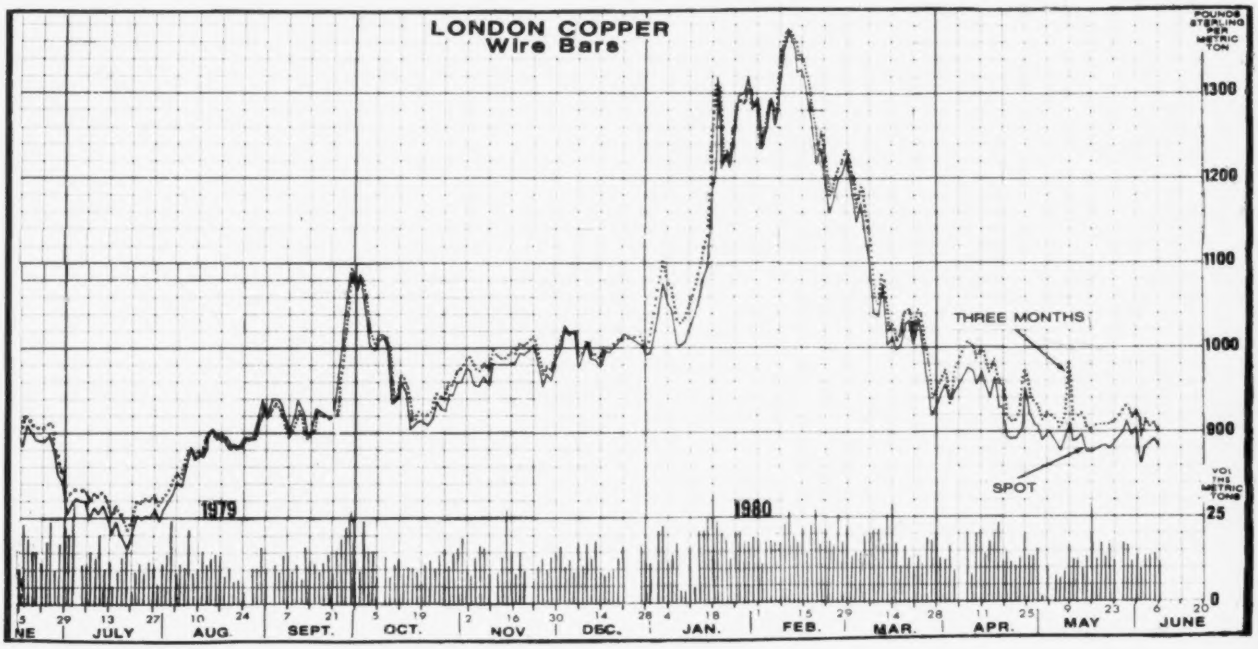
Non-ferrous prices cannot be explained by simple supply/demand equations. First, there is little data on foreign production. While output and price figures are readily available for the free world, and the communist bloc figures can be estimated, there is no accurate information on individual installations. Key data are lacking on capacity, unit costs, capital/labor ratios, ore content and a host of other variables. Second, when prices go up, especially when the rise is sharp, demand increases instead of decreasing. This is due to "anticipatory forward hedging," a commodities euphemism for inventory buildups. This hoarding is based on purchasing agents' decisions, and there is no way to plug human expectations into an equation or econometric model.

Price forecasting thus boils down to a study of available statistics with special emphasis on inventory levels at three stages: production, manufacturing, and exchange warehouses. These studies, taking into account the general economic level of activity and historical experiences, will yield satisfactory price forecasts.

Copper Profile

Copper, one of man's first metals, is one of the building blocks of civilization. Copper was the bridge linking the Stone Age to the Metal Age. Found in both free metallic form and in easily reduced ores, copper's development probably occurred in three evolutionary stages.

Originally, primitive man found he could pound copper into almost any shape. In the process, he discovered it hardened enough to be sharpened into



cutting implements. Centuries later, man found it could be melted and cast into desired shapes. Finally, ores were smelted to produce the red metal.

Copper consumption during the Twentieth Century mirrors the sharp population growth and surging industrial activity. There is a distinct long-term correlation between economic activity in highly industrialized countries and copper usage. Since 1900, worldwide consumption has risen at an average annual rate of 4½ percent, matching the growth in industrial activity. This ever-increasing usage is due to copper's outstanding qualities: excellent electrical and thermal conductivity, good corrosion resistance, ability to be alloyed, malleability, tensile strength, and aesthetic appeal.

About 90 percent of refined copper production is consumed by four major industries: electrical (including telecommunications), capital equipment (including chemical), construction, and transportation. The remaining 10 percent goes into a wide range of miscellaneous products.

The single greatest use of copper—about 50 percent—is in electrical components such as motors, generators, transformers, switch gears, transmission cables and electrical contacts. The expanding telecommunications industry has a huge appetite for copper.

The capital equipment sector has many diverse uses for copper, including: heavy water turbines, machine tools, heat exchangers and precision instruments.

Internationally, importing countries generally enter into long term contracts, up to 25 years, with producing countries for specific tonnage at some formula price, usually LME related.

Tin Profile

The tin industry is largely unstructured, because of the vast geographical separation between producing and consuming countries. Mining is concentrated in Southeast Asia. Malaysia produces 26 percent of the world's tin, Indonesia 11 percent, Thailand 9 percent and Bolivia 13 percent. Yet it should be noted that production figures are less than accurate because of tin smuggling.

In Southeast Asia, small, costly, labor-intensive mines such as gravel pump mines provide half of each country's production. Most large mining operations have been nationalized by host countries.

Tin is consumed mainly by industrial countries. Tin cans represent about 40 percent of the U.S. tin consumption. Other uses are in solder, alloyed with copper in bronze and brass, and as non-tin-can tin plate. Glassmakers use molten tin as a floating bath in the manufacturing of plate glass.

Geographical differences and distances between the tin-producing and tin-consuming countries have caused a long history of price volatility and prompted producing and consuming countries to form the International Tin Agreement (ITA). This bond seeks to secure balance between production and consumption by establishing floor and ceiling prices. However, the ITA has been less than successful, especially in preventing free market prices from exceeding its targeted ceiling.

Since Southeast Asia produces most of the world's tin, the physical tin market at Penang, Malaysia, is one of two centers of world tin pricing. The other is the LME. The Penang price is a joint affair established daily by the two Malaysian smelters. They compare dealer bids against available tin supplies at their smelters. The price is set each morning in ringget (the Malaysian currency unit) per picul (a Malaysian measure of weight). To convert ringget per picul to sterling per tonne use the following formula:

$$\frac{\text{Ringget per picul} \times \text{picules per tonne (16.354)}}{\text{Ringget/Sterling exchange rate}}$$

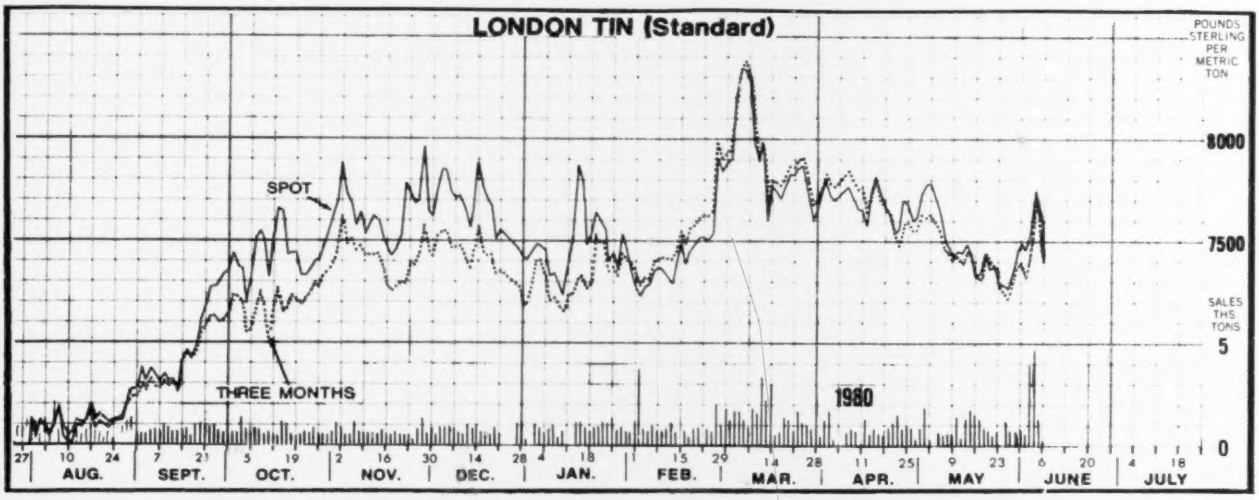
Example: Given Malaysian price of 2,079 ringget per picul and a ringget sterling exchange rate of 4.7524.

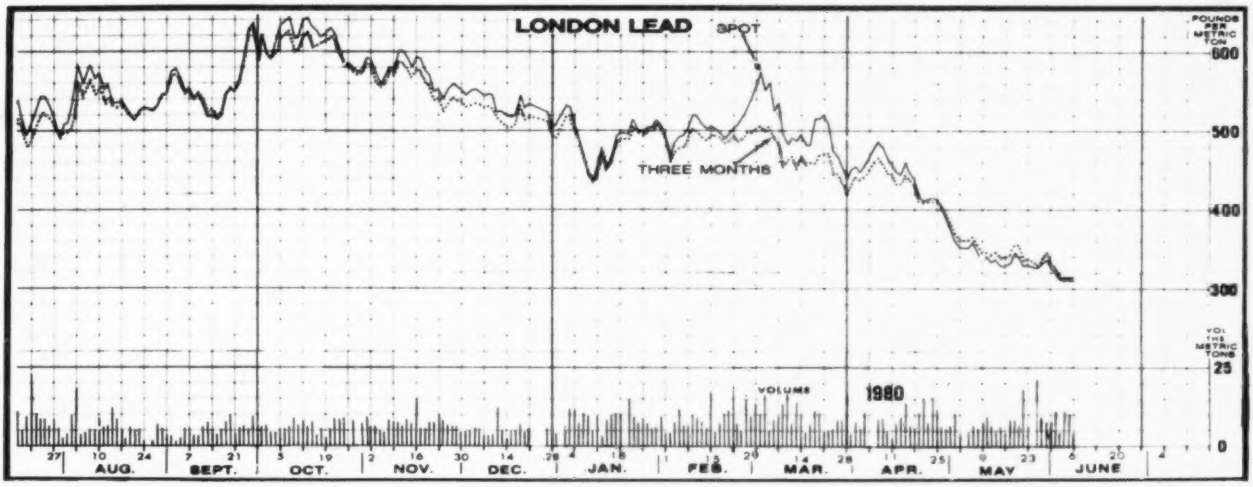
$$\frac{2{,}079 \times 16.5354}{4.7524} = £7233.62$$

Lead Profile

Lead, the most corrosive-resistant base metal, is soft, heavy and malleable, and has been one of man's most useful metals through the ages. The hanging gardens of Babylon were floored with sheets of lead, and the Egyptians used lead to glaze pottery. The Roman word for lead, "plumbum," was used to describe water pipes and spouts.

Although lead deposits are found throughout the





world, the U.S. has the largest reserve and is the leading producer of both primary and secondary lead. About 50 countries mine lead, but only 36 report production. The smaller countries do not have smelting capabilities and must ship to smelters in industrialized countries.

Lead is consumed in two ways: as a metal, where it is used by itself or alloyed with other metals; and as a chemical, where it is used as a compound.

As a metal, lead is used primarily in storage batteries for automobiles and as emergency power sources in hospitals, theatres and stores, as well as power supplies for portable tools, golf carts and lawn mowers. The average automobile battery contains 20 pounds of lead and has a life expectancy of three to four years.

Lead, the most impervious to radiation of all base metals, is used extensively in hospital X-ray rooms and as a protectant in buildings containing nuclear materials.

Lead is also used as an anti-corrosive sheaf for electrical cables and is the major metal used in projectiles for sporting ammunition. It is still used for bullets in military training, but is no longer used in combat application.

As a chemical, lead in the form of tetra-ethyl and tetra-methyl improves gasoline's performance in high-compression engines by controlling the rate of flame propagation—even combustion. This results in greater efficiency. The lead content in leaded gasoline is 1.7 grams per gallon.

Corrosion-resistant lead paint is an effective protective coating. Lead oxide (red lead) is used for iron and steel while lead chromate (yellow lead) is used for safety markings. Lead's use as a chemical is declining because of the hazards of toxicity. Regulations have been imposed to limit the amount of soluble lead used and to set standards for maximum release of lead into the atmosphere.

There are many small volume miscellaneous applications. As an annealing bath, low melting lead alloys provide a curing medium for other metals. As an oxidizing agent, it is a manufacturing ingredient in dye, matches and adhesives. Lead weights are also used as ballast in submarines and sail boats. Lead's aesthetic qualities add brilliance and clarity to glass and resonance to crystal.

In the United States and Canada, producers quote a fixed producer's price for lead. Most producers outside North America sell lead under long term contracts with prices determined by an LME price related formula.

Producers are rarely able to control or influence the producer price or the LME price for any length of time. When prices get too high, scrap material becomes plentiful and tends to hold prices down.

In recent years, the communist bloc countries have used the LME as a market of last resort—buying on the exchange when they needed supplies and selling on the exchange when disposing of excess materials. This has taken price control out of the hands of the producers.

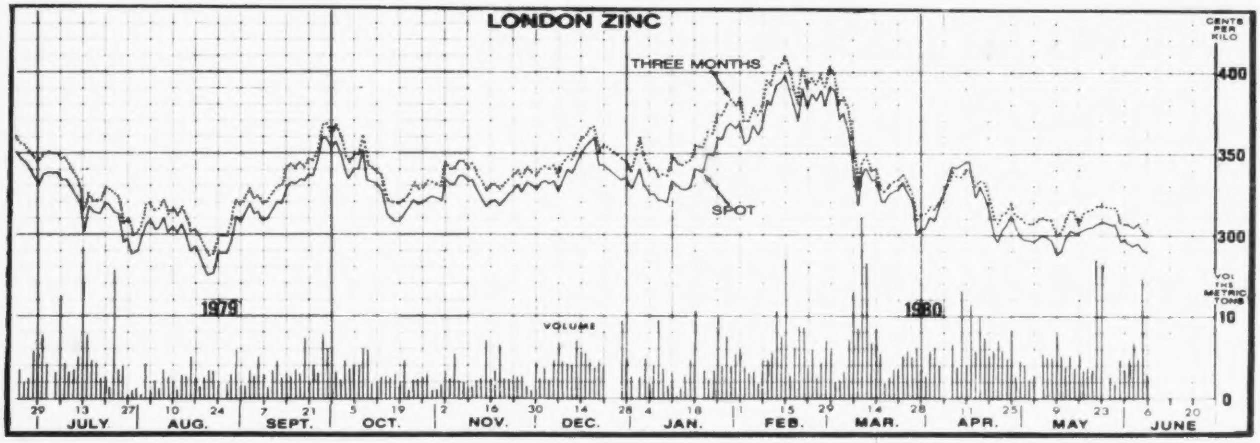
The most pressing economic problem facing the lead industry today is neither supply nor demand related but rather an environmental consideration. Smelting and processing emissions of sulfur oxides into the atmosphere and toxic wastes into streams must be halted or reduced to meet new standards set by local, state and federal governments. All solutions require substantial capital investment and increased operating costs. This has economic ramifications. U.S. producers, burdened by new costs, are at a disadvantage competing with foreign suppliers who are less environmentally conscious.

Zinc Profile

Zinc, a bluish-white metal ranking fourth in world consumption after steel, copper, and aluminum, is a prime ingredient in products ranging from automobiles to suntan lotions.

Zinc plays a crucial role in automobile manufacturing. Die-cast zinc is used for such items as handles and knobs. Brass (a copper/zinc alloy) is used in radiators, tubing and trim. Zinc oxide is used in rubber tires. The transportation industry accounts for approximately one-third of total zinc consumption.

But zinc's versatility is staggering: galvanize (zinc-coated material) is a main component for structural steel, roofing, and siding, as well as for ducts in air-conditioning, ventilating and heating systems. There are no satisfactory substitutes for zinc's anti-corrosive galvanizing uses, but competitive materials such as ceramics, plastics and electro



plated cadmium are substituted when zinc prices rise to uncompetitive levels.

Zinc-bearing bronze and brass are used in many applications: faucets, valves, fittings and tubes. Zinc dust is mixed in paint and other chemical applications such as sunburn preventives.

Zinc is also an essential trace element in human nutrition. Some food processors list zinc as a constituent in their products.

Zinc production comes mainly from Canada, the USSR, Australia, Peru, and the U.S.A., but it is found in about fifty countries.

Recycled zinc scrap in the form of discarded die castings, brass and bronze items, accounts for about 5 percent of the total world supply. New scrap (industrial wastage) either is recaptured in manufacturing and runaround or is sold to secondary smelters. The zinc in zinc-based alloys is recovered by melting and redistillation to grades almost indistinguishable from primary material. Copper/zinc alloys are melted down. The zinc is not separated. Rather, the melted alloy is recast as brass or bronze ingot.

Western World zinc production is sold under annual supply contracts. Deliveries are agreed upon in advance, with pricing set at the producer's published price prevailing at the time of delivery. U.S. and Canadian producers quote prices in cents per pound, European producers quote prices in sterling per tonne. The European price is also used worldwide as the basis for pricing ores and ore concentrates.

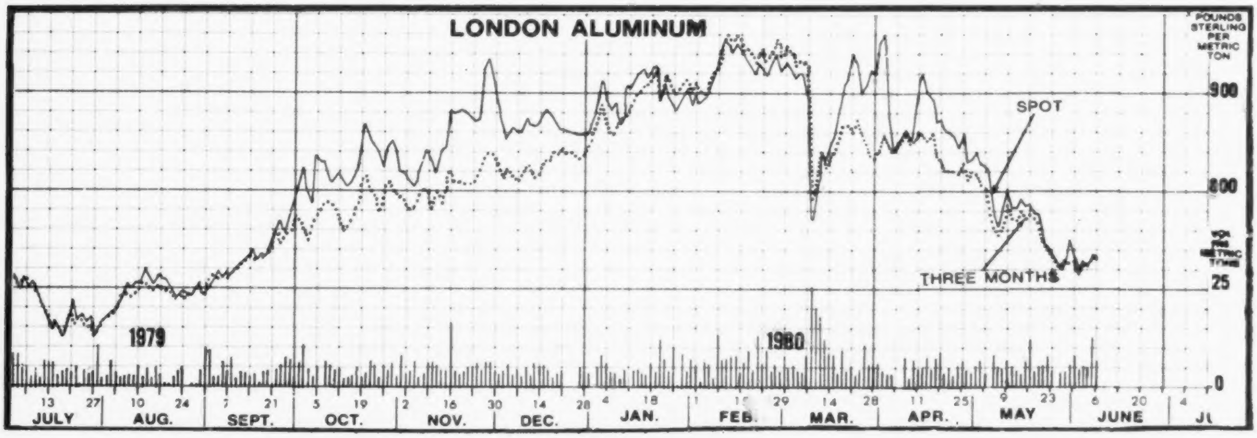
Large supplies of zinc overhung the market in 1977, causing free LME prices to become the "real" price and the producer price to become only "nominal." In 1978, producers cut production and lowered their prices to better reflect LME prices and, as a result, were able to gain pricing control. In the future, LME quotations will play a more dominant role in pricing zinc.

Aluminum Profile

Aluminum is the most abundant metallic element in the earth's crust. But obtaining and transporting it is a costly process. Aluminum is extracted from bauxite deposits, many of which are located in the developed countries far from the main consuming areas of North America, Europe, and Japan.

The world's aluminum industry is dominated by six integrated firms: Alcan Aluminium Ltd., Aluminum Company of America, Reynolds Metals Company, Kaiser Aluminum & Chemical Corporation, Pechiney Ugine Kuhlmann Group and Swiss Aluminum Ltd. These six have financial interest in half the world's aluminum production capacity. About 50 other companies own a quarter of the world's production capacity, frequently in association with one of the six larger firms. The governments of 24 countries own or have equity interest in the remaining 25 percent of production capacity.

Aluminum is produced by running mined bauxite through a hydrometallurgical process to produce alumina (aluminum oxide). The alumina is re-



duced to metal form (aluminum) by electrolysis in a molten bath of fluoride salts. However, this process consumes vast quantities of electrical energy; the recent sharp increases in energy costs boosted the cost of aluminum production.

With aluminum consuming so much electrical energy, national energy policy decisions will become increasingly important. Japan, for example, recently stopped expansion of primary production capacity because of energy shortages.

Aluminum is often referred to as an energy "bank." Once it is used, it is immortal. Aluminum can be recycled over and over again. And most importantly, the recycling process saves 95 percent of the energy it takes to produce primary (from ores) aluminum.

Aluminum is an important ingredient in many everyday products. About 22 percent goes toward residential uses, including siding, doors and windows. The transportation industry consumes about 16 percent while the electrical and communication industries use 10 percent. About 8 percent goes into consumer durable goods such as refrigerators, air conditioners and washing machines.

When the LME first proposed trading aluminum in early 1978, industry leaders objected, complaining the exchange was a "gambling casino." The main criticism came from independent consumers, who, it seems, had cause for alarm.

When aluminum trading started on the LME in October 1978, there was a shortage of material, causing exchange prices to rise above the producer price. This meant that producer-owned fabricators secured material at the producer price while independently owned fabricators had to pay the higher free market price. In previous times, free-market trading was confined to merchants who looked after their customers and were more flexible. But in the fall and winter of 1978, suppliers expected to receive the LME price. If customers didn't want to pay it, then the suppliers had the alternative of using the LME as a terminal market.

From the exchange's point of view, the great concern was that prices might be distorted by a lack of material in exchange warehouses. Since most of the aluminum supplies are controlled by producers, it was believed that artificial shortages might "starve" the exchange. For this reason contracts specifically called for low quality aluminum.

At present, aluminum trading is conducted by a limited number of traders dealing with floating supplies. The LME will play a much more important pricing role in the future, similar to that of copper. Some communist bloc aluminum exports are already priced on an LME formula.

Nickel Profile

When alloyed with other metals, nickel adds strength and corrosion resistance over a broad spectrum of temperatures. These characteristics have played an important role in the development of modern industrial societies. For better or for worse, nickel has also played an equally prominent role in building sophisticated military armament.

Few people realize more than 90 percent of nickel is used in the following alloys:

STAINLESS STEEL (nickel content from 1.25 percent to 37 percent). Stainless is used as structural members in aircraft, trucks, automobiles, and railroad cars where high strength and corrosion resistance is desired. Other uses include cryogenic equipment and household appliances.

ALLOY STEEL (nickel content under 2 percent). The small amount of nickel improves hardenability of steels that are heat treated.

NICKEL-COPPER ALLOYS (nickel content more than 50 percent). This alloy has wide application for food-handling equipment where corrosion resistance is important. These alloys, with their excellent resistance to corrosive effects of salt water, are also used to make marine propellers and propeller shafts.

COPPER-NICKEL ALLOYS (nickel content about 10 percent). Usually referred to as cupronickel, this alloy has many industrial uses—heat exchangers, condensors, evaporators. Since copper and nickel are mutually soluble in all proportions, these alloys withstand corrosion attacks against the individual metals.

SUPERALLOYS (nickel content over 50 percent). This term, coined after World War II, describes alloys used in high-temperature applications such as jet engines, where temperatures exceed 1,800 degrees Fahrenheit. Nickel increases strength and provides resistance to oxidation and corrosion. A typical superalloy might have the following composition: chromium, 19.5 percent; cobalt, 13.5 percent; molybdenum, 4.3 percent; carbon, .10 percent; aluminum, 1.3 percent; titanium, 3 percent; boron, .05 percent; iron, 2 percent; nickel, 56.25 percent.

There are a number of other corrosion-resistant alloys containing nickel; the other metals are usually chromium and iron. Chromium gives resistance to oxidation. These alloys are used in steam turbines, furnaces, valves and pumps.

Most nickel is mined as ore, either oxide or sulphide, rather than as a by-product. It is produced by a limited number of groups led by International Nickel of Canada (INCO), which, at one time, supplied 80 percent of the Western World's needs. However, a prolonged Canadian mine strike against INCO in 1969 resulted in shortages that allowed other suppliers to enter the field, and the market is now competitive.

Although there is a published producer price, producers do not adhere to it and a free market price prevails.

Encouraged by the success of the aluminum contract, which took root against industry opposition, the LME started a new nickel contract in April 1979. Volume has been small, but the contract has received recognition and acceptance. Trading activity is spread widely among the industry, and there has been an impressive buildup in warehouse stocks.

Western nickel producers profess to pay little or no attention to the LME contract. In reality, they watch the prices closely.

Precious Metals

Inflation was the overriding influence on gold and silver prices in the 1970s. As investors watched governments repeatedly bungle their attempts to control inflation, many of them diverted their savings to precious metals.

Long-term chronic inflation is nothing new. It is a monetary phenomenon produced, with isolated exceptions, by an increase in the money supply. It is an outgrowth of the perceived difference between the *nominal* quantity of money—money expressed in terms of dollars—and the *real* quantity of money—money expressed in terms of the number of weeks' income it equals.

People, for some unexplainable reason, are stubbornly consistent about the amount of real money they hold in savings. In the U.S., for example, people tend to hold four-and-a-half weeks' income in the form of savings. The people of other countries tend to hold different amounts of real money. In India it is seven weeks, in Greece it is six weeks, etc. ,Over long periods of time, each country's figures are amazingly constant.

When a country's money supply increases faster than it can be absorbed by natural growth, people find they have more savings than they want to hold, so they spend it. Each thinks he can spend his money. From the individual's standpoint he is correct; he can reduce his cash balances. But, from the entire country's viewpoint, cash balances cannot be reduced. One person's expenditures are another person's receipts.

Consequently, if everybody in a country tries to reduce his balances by spending, he competes with the others, bidding up the price of goods and services. Nominal incomes will rise, and real money holdings will be reduced. The rise in prices will bring an individual's money holdings down to 4¼ weeks' income. The process is achieved by a rise in the price level, not by the reduction in nominal balances.

This, in a grossly oversimplified explanation, is the process whereby changes in the money stock influence general price levels. However, the hyperinflation of the Seventies was additionally influenced by several non-monetary factors: the failure of successive American administrations to finance the Vietnam war out of current revenues; the substantial increase in raw material prices caused by the unexpected number of countries achieving unusually high growth rates simultaneously; and a series of poor harvests. These factors contributed to the breakdown of the Bretton Woods fixed exchange rate system, with the resulting currency instability itself adding to inflation. Then, the nightmare: OPEC countries increased the price of oil.

Gold and silver prices in the Eighties again will be dominated by inflation. But a new influence, *Le Grand Strategies*, will also influence prices. As the world's countries grope, attempting realignment, there will be times when money will look for nonaligned havens. Precious metals will be one of the vehicles.

Gold and silver are unique among commodities. Supply/demand forces alone do not affect prices and are not the most important influence. Traders need not become too involved with the nuances of production/consumption statistics. Instead they should concentrate on broad world events.

Silver Profile

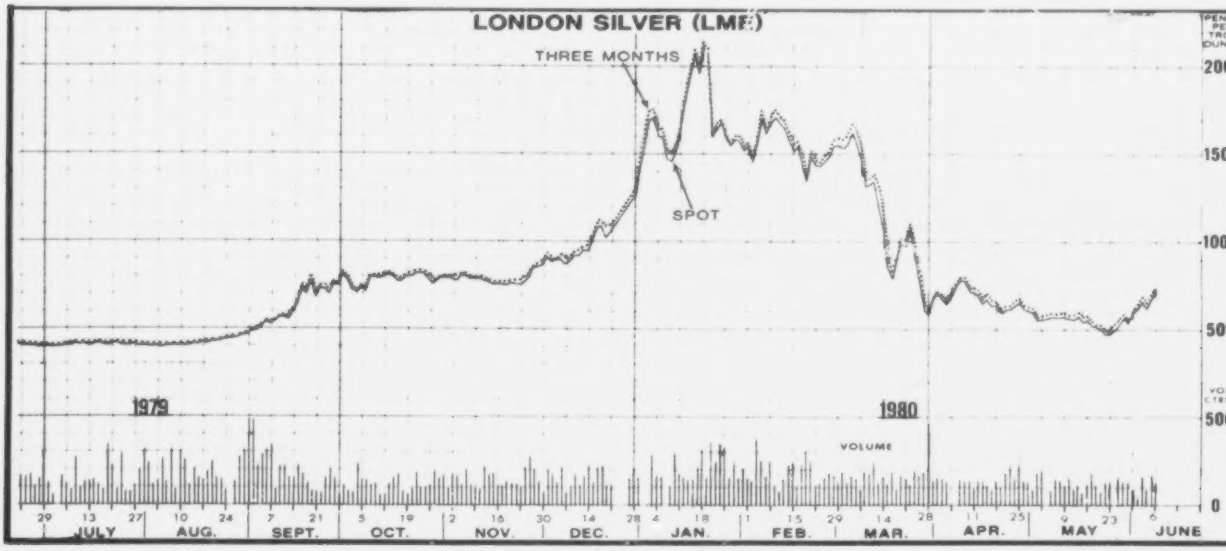
In recent history, silver is one of the world's most highly prized metals. Less expensive than gold and platinum, it still is within economic grasp of today's middle class.

Most of the world's silver has been produced in the Western Hemisphere after the discovery of the Americas. Silver has played an important role in U.S. monetary history. However, Public Law 88-33, passed in 1963, repealed all prior silver legislation, thus eliminating silver-backed currency. Silver is now used only as a subsidiary metal in coinage.

Public attention was drawn to silver in May 1967, when a Treasury Department edict called for redemption of silver certificates within one year, subsequent sale of two million ounces per week and the transfer of 165 million ounces of Treasury stock to the strategic stockpile. In effect, the Treasury removed the ceiling on silver prices.

Silver's unique properties are sought by industry. After gold, it is the best electrical conductor known to man and one of the most corrosion-resistant metals. When copper corrodes it forms copper oxide, which hinders conductivity. But when silver corrodes, it forms silver sulfide, which is itself an equally efficient conductor. This makes silver the most desirable electric conductor for aerospace uses where repairs are impossible.

The photographic industry accounts for about 28



percent of silver's consumption. Some 90 million ounces are used annually to coat or sensitize materials. Depending on the end use, photographic film and paper contain from 0.01 to 0.70 ounce of silver per pound of material. Developing processes remove part of the silver, but a large residue is left on the film and paper. During processing, silver is needed to form the image concentrates in the fixing bath.

Despite its high cost, silver's other outstanding qualities—reflectivity, malleability and ductibility—justify its use in industry.

Silver is a staple in our day-to-day living. Because of its stability and beauty, designers have employed it in art works and tableware.

Silver trades slightly differently on the LME than other metals. It is quoted in sterling per troy ounce, rather than per tonne, and is quoted for cash, three-month and seven-month delivery. Other metals on the LME trade on cash and three-month contracts only.

Gold Profile

(Note: *At press time gold was not traded on the LME. The Exchange was expected to introduce a futures contract shortly. Transactions, however, can be made in the London dealer market.*)

Gold is mined everywhere in the world except Antarctica. The largest producing country is South Africa, followed by the U.S.S.R. and the U.S.A. Gold is mined mostly as a primary metal, but about 40 percent of U.S. production is either as a by-product or coproduct of base metal mining. Sources estimate about 1.3 billion troy ounces have been mined to date.

Known as the "heraldic metal," gold is a rich yellow color with unique metallurgical properties that make it the world's most prized metal. Gold's chemical symbol, *Au*, comes from the Latin *"aurum,"* meaning shining dawn.

Gold is so versatile that it is used in almost every facet of life—from filling cavities to conducting electricity in sophisticated circuitry to forming the protective shield on moon-landing spacecraft. Gold neither corrodes nor tarnishes, retaining its luster indefinitely.

London became the world center for gold trading in 1804, seizing that coveted position from Amsterdam when N. M. Rothschild assembled funds to finance the closing phases of the Napoleonic Wars. Starting in 1919, the ritual of a London fixing was inaugurated, and the twice-daily fixing ceremonies have always taken place at the Rothschild offices.

On the strength of its know-how in refining, assaying and shipping, London is the world center for gold handling. World spot quotations are mostly "loco-London," that is, London delivery. This eliminates the computations of freight and insurance from pricing.

The five key members of the London gold market, those who "fix" the price, control the "good delivery" list, a listing of smelters and assayers whose markings indicate an acceptable weight and quality. The world relies on London as the arbiter in this specialized area.

Since December 31, 1974, when Americans were allowed to own and trade gold, the metal has gained enormous popularity as a hedge against the declining purchasing power of paper currencies. The height of investors' lack of confidence in paper money came in 1979, when there was widespread switching from dollar-denominated assets to gold.

London's first fix starts the day for America. That fix launches trading in New York, Winnipeg, and Chicago, where the markets remain open after London closes. The American prices are then picked up by Hong Kong, whose prices in turn are carried over to London the following morning. Gold is traded around the clock.

Using the LME

Americans trading on the LME must take into account certain currency considerations. Currency exchange rates do not affect basic world values per se, but if the U.S. dollar were devalued, naturally, more dollars would be needed to purchase a quantity of commodities than before the devaluation. Thus, while LME prices would tend to remain unchanged, Comex prices would rise to maintain a parity with prevailing world values. But there are built-in limits. If the dollar were to sink 10 percent it would not automatically mean a full 10 percent rise in domestic metal prices, because a large portion of any devaluation is usually discounted in the price of fungible commodities. The following should be kept in mind:

RULE OF THUMB:

1. Dollar expected to weaken relative to sterling:
   Bullish for Comex
   Bearish for LME
2. Dollar expected to strengthen relative to sterling:
   Bullish for LME
   Bearish for Comex

When putting on an LME position, a trader should place a counterbalancing sterling hedge for the same prompt date in the British foreign exchange market (FOREX) or in the U.S. foreign exchange market (INTER-BANK). There is nothing more frustrating than being "right" in the market only to wind up losing money. Commodity brokers can easily arrange sterling hedges.

Metals, except for silver, are quoted in sterling per tonne, while metals in the U.S. are quoted in cents per pound. To convert London prices to the U.S. equivalent, use the following formula:

$$\frac{\text{LME price} \times \text{sterling exchange rate}}{\text{number of pounds in a tonne (2204.6)}}$$

Example: Given LME lead price of £581 per tonne and a sterling exchange rate of 2.1460,

$$\frac{581 \times 2.1460}{2204.6} = 56.555¢/\text{lb.}$$

Although quotations are published as cash and three months, any specific prompt date of up to three months duration (seven months in the case of silver) may be traded. Longer durations are possible by negotiation. Generally speaking, prompt date values can be gauged by extrapolation between cash and three months:

TO DETERMINE SPECIFIC PROMPT DATE VALUE:

1. Subtract the cash quotation from the three-month quotation. It does not matter if the figure is

positive or negative. The answer is the carrying charge (or discount) for three months.

2. Divide the above figure by 90, the number of days in three months. This figure is the daily carrying charge.

3. Calculate the number of days from the current day to the prompt date.

4. Multiply the daily carrying charge (2) by the number of days (3) to compute premium or discount.

5. Add the premium or discount (4) to the cash price for value of the specific prompt date.

EXAMPLE:

1. Given cash lead price of £581 and three-month price of £601: 601 − 581 = 20.
2. 20 ÷ 90 = .2222.
3. Given current date of November 1 and prompt date of December 1: November 1 to December 1 = 30 days.
4. .2222 × 30 = 6.666.
5. 581 + 6.666 = 587.67.

Silver prices are quoted in sterling per ounce. To convert simply multiply by the prevailing exchange rate.

While a contango or backwardation is usually evenly spread between spot and three months, at times there are wide differences between prompt dates—sometimes even between close dates. These price distortions come about from a concentration of hedging or speculation within a confined time period. For example, if in April a copper producer declares *force majeure* on May shipments, many consumers will buy May LME copper. May prompt dates will be skewed upward from other dates.

When placing orders, never assume there is an even distribution from prompt date to three months. Get a quote.

Orders are processed similarly to orders on American commodity exchanges, except that a customer must designate if his order is for the ring, the kerb or either. It is possible to place limit orders for specific prompt dates based on the cash price. Thus one could direct his broker to "sell 150 tonnes of 30-day cathodes when spot is 897."

For bona fide hedge customers, brokers will establish a line of credit. The line's size depends on the customer's capitalization and credit worthiness. Hedge customers may trade up to their line without an initial margin deposit. For speculative customers, brokers also establish a credit line, but they require a margin deposit. The margin may be met by depositing cash, certificates of deposit, Treasury Bills, LME or Comex warrants or by furnishing a bank letter of credit. By custom, most brokers issue variance margin calls if equity declines to 75 percent of the original margin.

Contango/Backwardation

When there is a surplus of metal, forwards sell at higher prices than cash. This situation is referred to as a "normal" market in the U.S. and is called "contango" in LME trade jargon. The carrying charges are actually the costs of holding the metal—interest, storage and insurance. When cash sells at a premium to forwards, the situation is referred to as an "inverted" market in the U.S. and is called "backwardation" in London metal circles.

A distant contract usually has a limited premium over a nearby contract. Swiftly moving merchants and speculators buy cash metal and sell forward metal the minute a carrying charge profit appears. These spread transactions keep the premium within bounds of actual costs. When the month against which the operator sold becomes spot, he simply makes delivery or buys back his original short and simultaneously sells another forward contract. This procedure is not extremely profitable, but it is attractive and virtually risk free. (See section on borrowing for details.)

There is no limit, however, to the premium that cash can sell over forward. In an acute shortage those who need the material urgently bid against each other.

Merchants, fabricators and manufacturers sometimes find it advantageous to have extra material supplies on hand in case they're hit with an upsurge in business or a labor strike. If consumers store enough extra material, they must pay for that benefit. As they buy larger quantities of spot metal, they cause the contango to narrow to a point less than full carrying charges.

When such a condition exists, those consuming the metal must look at the alternative savings of buying spot material or futures contracts. For example, if the interest rate to finance copper inventories is 15 percent and storage and other costs add another 1 percent, the full cost of carrying inventories would be 16 percent per annum. But, if the futures contango is 14 percent, a user buying physical pays 2 percent per annum more for the privilege of having material on hand than he would if he bought futures contracts. The consumer must decide if he wants to pay the additional 2 percent for this convenience. Another example: a foundry must decide whether it should buy spot copper and store it for three months, or whether it should buy three-month futures. Spot is selling at £990 and three-month futures at £995. The cost to store and finance copper is 16.5 percent or £40.84 (£990 @ 16.5 percent for 90 days). The cost of material will total £1030.84 (the spot price of £990 plus the storage/finance cost of £40.84). Three-month futures can be purchased at £995, a savings of £35.84 (£1030.84 − £995).

Some commodity traders tend to conclude that the minute the contango narrows there is a shortage of material and backwardation will follow. Based on past market performance, the narrowing of the carrying charge premium usually only signals an alternative savings situation.

One should not conclude that forward contracts sell at premiums to spot, but rather that spot sells at a discount to forward contracts. The total benefits from maintaining inventories on hand represents the "marketplace" alternative savings and establishes the price relationship of spot to forward.

Borrowing/Lending

Borrowing is the purchase of a nearby date and the simultaneous sale of a forward date. It is used when a metal merchant or consumer needs metal immediately and can replenish it at a latter date, hence the word borrowing. It works this way: The mechant buys a nearby contract and simultaneously sells a forward contract. He accepts delivery on the nearby. Then, when his traditional source of material becomes available, he delivers it against his short sale. By buying and selling at the same time, his borrowing costs are predetermined. If he is unable to make delivery he can re-borrow, in other words cover his original short and sell short a more forward delivery.

Borrowing can also be profitable for speculators. At times the contango on an LME metal is large enough to offer investors a higher rate of return than prevailing interest rates. A trader simply computes the cost involved in accepting delivery—warehousing, insurance, and commissions—then, adding these costs to the spot metal price, he calculates the contango he needs to give him the yield he wants. The trader then monitors the market and places a contango order when prices indicate an execution looks probable.

Traders, however, should be aware of one risk—warrants are not for precise weights. When buying a cash metal and selling a forward, the purchase invoice is calculated on the exact weight. Exchange rules permit weight variances of plus or minus 2 percent on most metals. When the warrant is redelivered, the invoice is calculated on the full size of the contract. Although it is rare for warrant weights to deviate the allowable maximum, the risk should not be ignored. A trader receiving a warrant for the less than full weight could realize a small loss in a rising market.

Some brokerage firms will accept a "net yield" order. A trader gives his broker instructions to enter into a borrowing program for one, two or three months when a specific yield is present. For example, a trader can instruct his broker to initiate a copper borrow of 250 tonnes for three months if the net yield is at least 15 percent.

If the brokerage firm is able to execute the order, it does so for its own account, guaranteeing the investor 15 percent on the value of 250 tonnes. The customer is not subject to weight adjustments.

Lending is the sale of a nearby date and a simultaneous purchase of a forward date. It is used when metal merchants or consumers have excess material on hand and want to lend it. The merchant sells nearby contracts and simultaneously buys a forward contract. He makes delivery on the nearby, then when his long position matures, he takes delivery and replenishes his inventory. It is more profitable to be a lender when a backwardation exists. The higher nearby price is sold, and the metal is bought back at the lower forward price.

"Carrying" is the British term for both borrowing and lending. "Carries" represent a significant portion of LME business.

Using the LME As a Terminal Market

The LME is a ready source of available material to the metal trade. The metal withdrawn from the LME is used principally by merchants endeavoring to meet spot orders from customers who find their inventories are low. The merchant, or the consumer directly, can buy the tonnage he needs on the exchange, taking delivery on the prompt date.

Metal delivered into LME warehouses comes from all segments of the trade: merchants, refiners, consumers, and even some producers. When demand is slack, these groups find themselves with excess inventories. They sell LME contracts and, make delivery on the prompt date. Deliveries must be registered (i.e. approved) brands. This assures all parties that the metal meets the contract size and purity specifications.

Delivery points, brands, and shapes are at the seller's option. If a merchant taking delivery receives an undesirable brand, he can negotiate the exchange of the warehouse receipt (warrant) with another dealer for the desired brand. Most likely he will have to pay a premium for this exchange.

Warrants are issued by authorized warehouses and are usually bearer documents. In registered form, they can be easily endorsed over to the next buyer. It's as simple as endorsing a check. Warrant holders must pay storage fees (which vary from warehouse to warehouse) and insurance. The warrants are well known in banking circles and are readily acceptable as collateral.

Force majeure is a clause found in private metal contracts which allows sellers to postpone or cancel delivery and permits buyers to refuse delivery, owing to events beyond their control. Events justifying the declaration of *force majeure* include political upheaval, labor strikes, explosions, port delays and catastrophic natural events. There are no *force majeure* clauses in LME contracts. Parties affected by a *force majeure* declaration can use the LME as a source of metal or as a terminal market.

Exchange warehouse stocks are a sensitive barometer of inventory levels and are the bellows in the industrial pipelines. LME warehouse figures are issued each Monday morning and are published by all financial news services. Continual buildups indicate an oversupply, and prolonged draw-downs reveal a tight supply situation. The important statistic is not the level of inventories but the trend of that level.

Arbitrage

The fundamental theory of arbitrage is to buy in one market and sell in another market at a different price, with the arbitrageur pocketing the difference as his profit. The feature that allows this theory to work in practice is the fact that metal is fungible and the metal of one country is deliverable against sales in another country.

The classic arbitrage involves the purchase and sale of equal tonnage and quality specifications—but different delivery dates—in two separate markets. This allows time to deliver the purchase against the sale. The difference between the purchase and sale price should cover the costs of transportation, finance, insurance, brokerage, and miscellaneous fees. If the spread difference narrows, the arbitrageur liquidates both legs and takes a profit.

EXAMPLE: Tin arbitrage, Penang/London
Assume the following:

1. Tin, ex smelter Penang @ 2,079 ringget per picul (converts to £7233.62 per tonne, see previous tin section for explanation).
2. Costs of ocean and inland freight, financing, insurance, brokerage, and fees come to £200 per tonne.
3. Total cost of tin delivered via LME warrant comes to £7433.62 (1. plus 2. above).
4. LME 2-month tin is £7495.

Illustration:

Buy: 25 tonnes tin, ex smelter Penang (25 × 7233.62)	£180,840.50
Simultaneously	
Sell: 25 tonnes tin, 2-month LME (25 × £7495)	187,375.00
Gross profit	6,534.50
(Less costs (25 × £200)	5,000.00
Net profit	£ 1,534.50

The arbitrageur, having set up his purchase and sale, then follows both markets. At worst, the relationship widens or remains the same, and the purchase is simply put afloat and delivered against the sale to close out the transaction. This means the arbitrage has only been a moderate success. To be profitable, the differences must narrow significantly. Such narrowing occurs for any number of reasons: local shortages, labor strife, civil unrest, natural disasters, etc. When the narrowing reaches a point where the arbitrageur wants to take a profit, he liquidates by simultaneously reselling his purchase in Penang and buying back his LME contract.

Currently, arbitrage is the domain of highly capitalized metal dealers with ultramodern communications and worldwide connections. However, with the popularization of managed commodity pools, it will be only a matter of time before professional commodity managers arbitrage for, or on behalf of, the public.

Hedging

There is one protection you won't find in your insurance man's portfolio: "Price insurance." But if the last eighteen months are any indication of the wave of the future, metalmen might well be standing in line for this coverage—hedging.

Hedging is a way to protect against adverse price movements. You hedge by shifting unwanted price risk onto the futures market or by having the futures market establish a price for a future transaction. The "price insurance" found in the futures market arises through the close relationship between actual (cash) prices and futures prices. While hedging does not guarantee profits or eliminate all risks, it offers sufficient protection to warrant consideration by all metalmen. The futures market provides a basic hedging mechanism in two ways:

1. *Inventory protection:* Companies with physical inventories or commitments can offset their positions with counterbalancing short positions in the futures market. In the event prices climb, a company would sustain a loss on the futures transaction, but this would be offset by a corresponding rise in the inventory's total value. If prices decline, the futures contract would show a profit, but the inventory value would have dropped, again by approximately the same amount. In essence, hedging protects the value of an inventory by locking in a price.

2. *Forward commitment protection:* Firms agreeing to sell a particular metal or product without physical inventory or a raw material purchase agreement are taking a speculative short position. This financial exposure can be reduced by taking a counterbalancing long position in the futures market. This hedge allows manufacturers to maintain optimal production schedules without having to make immediate material commitments. At a later date, materials can be purchased and the long positions sold, or actual delivery of the futures contract can be taken. As a matter of practical application, delivery is almost never taken.

The difference between the price of physical metal and futures contracts is referred to as the "basis." The term also applies to the difference between the price of scrap metal and futures. When hedging, the "basis" is, in fact, unhedged. In other words, cash and forward prices tend to respond similarly; however, sometimes supply/demand forces may cause the two prices to respond in a non-traditional manner.

In reality, hedges are rarely perfect. Basis changes work favorably in some instances and unfavorably in others. The law of averages tends to balance out the results. However, there is always a possibility of a sudden abnormally large basis change.

Prior to hedging, it must be determined if the price level risk (change in market price) is greater than the basis risk (change in difference between cash and futures). If the price level risk is considered to be larger, a hedge is warranted. If the basis risk is greater, a non-hedging position is advisable.

The "price insurance" provided by inventory hedging is not free. The costs are composed of brokerage, transaction costs (buying at the offering, selling at the bid), and possible changes in the basis. Maintain hedge ledgers to evaluate the effectiveness of an inventory hedge program.

In the case of today's roller-coaster markets, effective risk management is essential for business survival. The futures market, used professionally, can be a useful financial management tool. However, a comprehensive program should first be developed. Such a program should encompass the following:

—A well defined corporate policy and strategy

—A policy/strategy for each product area

—A policy explicit enough to provide the financial officer in charge of hedging the direction and guidance he needs for quick decisions.

—A strategy that continually evaluates price risk, basis risk, and cash flow risk.

—An understanding of the total financial exposure from futures positions as well as from raw material and/or product inventories.

The critical section of this check list is basic policy and strategy. These must be confirmed by as much actual experience as possible.

Trading Hints

THE UNHEDGEABLES. Two situations are unhedgeable: When prices are not based on LME, e.g. posted producer prices; and when one party to a contract can fix the price at a time of his choice, e.g. back-pricing.

For example, if the LME copper price has been trading at a constant discount to the producer price, a manufacturer could be tempted to forward hedge (buy LME futures) at the known discount to producer price. Then at a later date the manufacturer can buy from the producer and lift his hedge. However, the LME price may drop while the producer price remains the same, resulting in a speculative loss.

The second category of nonhedgeability applies to producers themselves. When a producer sells metal to a consumer he sometimes gives the buyer 24 hours to decide if he wants to be billed at the producer price or at that day's LME price. During this 24-hour period, the producer is unhedged and has, in effect, granted an option to the buyer. The only method of hedging under this circumstance is to buy an option from another producer or trader. If the producer were to lay down a normal hedge, he would expose himself to a loss equal to an amount by which the metal price could move during the 24-hour period.

LONG TERM INVESTMENTS. You can trade on Comex as far forward as 18 months, compared with three months (seven months for silver) on LME. While LME members will negotiate longer duration contracts, there are clear advantages to using Comex. The trader can see daily quotations in his morning newspaper, and should he take a quicker-than-expected profit, he will receive an immediate check from his broker.

TAX CONSIDERATIONS. *Without attempting to give tax advice, the following should be noted.* The U.S. Tax Laws establish the long-term holding period for commodities traded on U.S. commodity exchanges as more than six months. Other capital assets have a longer holding period. LME trades fall into this latter category. (This is generally moot since most LME trades are for three months or less.) Also, since LME profits are not available until prompt date, not liquidation date, the date a profit becomes taxable differs from that for U.S. transactions. Traders should consult their tax counsel.

DAILY TRADING LIMITS. In accordance with U.S. commodity exchange rules, there is a maximum daily price fluctuation allowed. On Comex, there is an exception for the spot month.

U.S. trading limits were established in the aftermath of a *cause celebre* scandal which caused violent price swings and a precipitous decline in grain prices in the summer of 1933. On July 20, wheat prices ranged from 90¢ to $1.00, corn from 46¢ to 64¢ and oats from 35¢ to 41¢. These were heretofore unheard of price swings. On July 23, Secretary of Agriculture Henry Wallace ordered grain prices held above July 20th's closing price and that "fluctuations in a single day shall be limited to 5¢ for wheat with proportionate amounts for other grains." By trade custom, over the years this order has been expanded to include all U.S. commodities. By contrast, the LME has no such limits.

USING SCRAP PRICES AS A FORECASTING TOOL. The price of #2 copper scrap can be used as a forecasting tool. "#2" is quoted at a discount to the spot futures price. The amount of the discount is governed by the cost to convert the scrap into cathodes, the deliverable grade on Comex and one of the two grades deliverable on the LME. At present, the cost is 15¢ to 17¢ per pound. Therefore, if futures trade above this premium for any length of time, and if industrial activity is sluggish, then futures may be overbought.

Scrap prices and cathode conversion costs can be obtained daily through any commodity broker.

Importance of Scrap Metal

Metal is virtually indestructible. It is impossible to estimate how many million tons are in use today. This above-the-ground secondary (scrap) material represents an enormous supply and is an important source during high demand periods. Whenever a particular metal is difficult to buy, better grades of scrap fill the gap. Scrap can be converted into refined material at a relatively low cost. Conversely, during periods of low consumption, scrap can be a drug on the market.

Generally, the price of scrap fluctuates in proportion to futures prices. This was not the case, however, during 1979, when futures prices became volatile. High-grade scrap prices parallel futures prices more closely than lower-grade scrap because it has a composition similar to refined material. Secondary metalmen have the same financial problems as primary metalmen. They also use the LME for hedging and pricing.

Scrap comes in two basic forms: new and old. About two-thirds is new and consists of industrial discards such as trimmings, endcuts, rejects, and shavings. The remaining third is old scrap items that have already served their intended purpose and are now obsolete or worn out.

The TV stereotype "Sanford and Son" scrap peddler with pick-up truck, buying old pots and pans, has been replaced by a modern recycling industry which uses sophisticated methods to collect, sort and market scrap metals. For example, the radiator taken off a junked auto weighs about 70 pounds. It is made up mainly of copper (76 percent), but it also has zinc (12 percent), lead (9 percent) and tin (2 percent). Coincidently, these same metals are used in the same proportions in the brass alloy of lawn sprinkler heads. The used radiators are purchased by brass ingot makers, melted down, cast into ingot, then sold to brass foundries who recast the ingot into plumbing items such as sprinkler heads. No virgin material is used. Remember that the next time you replace a sprinkler head or outdoor faucet —it may be your old auto radiator.

Lower grades of scrap, such as unsorted plumbing fittings, are uneconomical to process in this country. They are shipped to low labor cost areas, mainly Korea and Taiwan, for sorting and upgrading.

The secondary metal industry has become an important sector of the economy due to the worldwide acceptance of scrap grading standards established by the National Association of Recyclable Industries (NARI).

CFTC Reporting Requirements

The Commodity Futures Trading Commission (CFTC) has charged several foreign firms with violation of U.S. commodity laws. The alleged violations are for refusing to provide the CFTC with information on customer positions in U.S. commodities. The CFTC feels foreign participants in U.S. markets must abide by U.S. rules and report positions just as domestic participants are required to do. Foreign banks and trading firms contend that their secrecy laws prevent them from revealing confidential positions. The first court case involving this matter was dismissed on a technicality unrelated to the issue at trial.

The U.S. commodity industry is divided. On one hand, some people resent the idea of forcing others to reveal market positions. They also welcome the foreign commissions generated on U.S. exchanges. Yet others say the markets have been ravaged, notably silver, and they feel stringent reporting requirements are necessary.

This issue is clearly a "monkey on the back" of the CFTC. If reporting requirements prevail, foreign traders will deal in other markets. In the case of metals, that *other* market will be the LME.

London vs. New York

Metal trading historically has been one of the many services performed by an international financial center. Others are banking, investment banking, organized securities markets, insurance, transportation and communications. However, this may be changing.

Until the late 1950s, international financial centers evolved because of their ability to supply capital to foreign borrowers. For the center to thrive, it needed a surplus of domestic capital and continuous sources of new capital. Only the world's most mature economies were able to develop true centers. London was clearly the leader in the Nineteenth Century; Paris was its only challenge.

Following World War I, Britain's economy slumped and London became unable to compete effectively with New York. New York won the distinction of being the world's most important financial center and gained considerable importance as a metals trading center.

But in the late 1950s, Euro-currencies and other offshore transactions became predominant and forever altered the historic nature of financial centers.

With the internationalization of credit transactions, it was no longer necessary for centers to be net suppliers of domestic capital. London regained stature as a global financial center. However, in recent years, three events have affected London's metal business without affecting other aspects of its financial dealings: legalization of gold ownership by U.S. citizens; the U.S. ban on commodity option sales; and abandonment of producer pricing by several U.S. copper producers.

Last year, the prohibition on British citizens owning gold, and therefore trading gold futures, was repealed. But this action left the LME at a disadvantage to Comex, where trading in gold futures has grown significantly since its inception on December 31, 1974. The LME does not favor gold futures business being channeled to the U.S., but it simply doesn't have a futures contract. To make itself more competitive, its Board of Governors organized a special committee to plan just such a futures contract. Surely it will become a reality shortly, but the exchange will have to fight to compete with the already well-established New York market.

An option is the right to buy or sell a commodity at a fixed price during a specified period of time. Many speculators like options, for unlike futures, there are no margin calls and the option buyer's entire risk is the premium he pays. Metal dealers also like options. By writing options, dealers have the best of two worlds. They can hedge inventories and receive extra income from option premiums. However, option business all but vanished in 1978. The Commodity Futures Trading Commission (CFTC), unable to stop widespread abuses by con men with freshly canned "pitches" hustling and misrepresenting LME options, even selling phony options, finally banned all sales of LME options in the U.S., where the bulk of sales took place.

A third blow also came in 1978, when some U.S. copper producers, led by Kennecott, abandoned traditional producer pricing in favor of Comex-related pricing. Consumers were better able to use the futures market to hedge. They switched to Comex, since it was the basis of the formula pricing system.

It would be erroneous to conclude the British are the underdogs. The reason: *money*.

On the LME, the power resides with the metal trading houses. This power stems from the fact that most bullion dealers are controlled by British banks. By contrast, the major factors in the U.S. futures markets are the commodity departments of brokerage firms. They have much less financial muscle than their British cousins.

Britain's commodity industry, with its sound financial strength, will compete aggressively with the U.S. commodity industry in the 1980s. The competition will far overshadow the grammar school type of rivalry that has existed between New York and Chicago.

International Price Agreements

Copper

Concerned about wide price swings, a group of copper producing countries met in Lusaka, Zambia, in June 1966 to discuss mutual problems. The outgrowth of that meeting was the formation of *Counseil Intergouverne Metal Des Pays Exporatteurs De Cuivre* (CIPEC), with headquarters in Paris. Members include Chile, Peru, Zaire, Zambia and Indonesia. Among them, they control 70 percent of the world's copper export trade, but not production: the U.S. and the Soviet Union consume their own production. In addition, Australia, Papua New Guinea, Yugoslavia and Mauretania are associate members, and Canada is an observer.

CIPEC, well aware that violent price moves are not conducive to orderly long range production plans, tries to exert a degree of control over copper prices and, in turn, give its members a bigger voice in their own economic destiny. But it doesn't work out that way. During most of its existence, CIPEC has failed to achieve its objective. Copper prices on the LME, the basis of most member countries' pricing agreements, fluctuated from £360 to £1360. This 13 years of volatility is far greater than any other period in recorded history.

There are numerous reasons underlying CIPEC's ineffectiveness:

—Each country has different production costs, hence any given price yields different profits to each member.

—Some members are more dependent on copper exports for foreign exchange than others. If cutbacks are ordered, it would affect the economics of each country differently.

—There is a strong, natural tendency for cartel members to compete among themselves.

—The group is not homogenous. Each country has its own outlook on social values and world politics. It is hard for them to see eye to eye on all issues.

Unlike OPEC, most members of which have a similar cultural background, Chilians and Zambians have little in common.

Since CIPEC failed as a producer cartel, copper exporting countries are now considering a producer/consumer arrangement such as the International Tin Agreement (ITA).

Tin

There is a long history of schemes to control volatile tin prices. Originally organized by British mining companies, these plans have had only limited success. They were costly and failed to prevent wild fluctuations. However, in the 1950s leading producing and consuming countries formed the International Tin Council (ITC) and set out three objectives:

—To achieve a degree of price stability which, in turn, will foster long term production/consumption balance.

—To insure adequate supplies.

—To prevent unemployment in producing countries which results from periods of overproduction followed by periods of severe cutbacks.

The agreement's basic plan is to create a buffer stock financed by a pool of money that will buy tin when a surplus causes prices to fall below an agreed upon "floor" level and sell the tin when prices rise above a "ceiling" level. Ideally, it was hoped prices would stabilize mid-point between floor and ceiling.

When the floor price is reached, the buffer stock manager buys all tin offered until the ITC's financial resources are exhausted. Then the ITC imposes export quotas on producing countries. The agreement seems to have succeeded in supporting tin prices, but like most commodity agreements, it fails to prevent prices from going through the ceiling when buffer holdings are exhausted. Nothing can prevent natural market forces from causing prices to penetrate an artificial ceiling. Financial resources do not help on the upside.

Another effort to stabilize prices is the United Nations Conference on Trade and Development (UNCTAD). The theory is that stabilized prices will guarantee mineral-rich Third World countries a cash flow, hence a participation in the wealth of the consuming industrialized countries.

This integrated commodity program calls for a stock fund to be formed by the industrialized countries. The fund will help stabilize the prices of ten key commodities, including metals, at a high enough level to provide export earnings for the developing countries.

The program is still in its formative stages and will take years before its effectiveness can be accurately evaluated.

Outlook for the '80s: A Decade of Crisis

If the U.S. economy went on a spree in the Fifties, a bender in the Sixties and a comedown in the Seventies, it's time to stock up on the proverbial tomato juice and aspirin, for it looks as if we'll have a throbbing economic hangover in the Eighties.

The 1980s were launched in a period of unprecedented uncertainty over energy and inflation, a questioning of governmental leadership and rising fears over hostile actions on foreign soils.

What's more, the problems seem to be worsening. As long as the price and availability of oil are in doubt, the energy factor will fuel inflation, hamper growth and cut into the nation's gross national product, thus lowering personal income and the standard of living. It would appear that there is no limit as to how far OPEC countries can raise prices or throttle output.

However, there is, in fact, a limit. The limit is the viability of the western economies. If OPEC threatens their collapse, military action will be taken. This military potential will be the unspoken premise of all future oil price and supply negotiations. Although it is not as apparent, the same viability can be said of non-fuel minerals.

Looking ahead, it can be predicted that inflation will heat the economy. Interest rates will probably be historically high and the value of the dollar will remain in doubt. The inflation and action of the dollar will steer the flow of investment funds and savings into high yield short term paper, homes, precious metals and collectables such as art and antiques. Safety from depreciation will be the elusive objective for individual and institutional investors in the 1980s.

The political rhetoric is an interesting barometer today. Candidates in the Sixties promised "exciting new programs." In the Seventies, they promised "new programs." Today, they are firmly stating "no new programs." This seemingly conservative tide in the early years of the decade will wash up against militant public employee unions and rising expectation of minorities. The *washout* will be interesting. Then, too, we face more potentially explosive extraordinary events like the Iranian crisis that can disturb the international diplomatic and economic order.

What does this mean to commodities traders? Clearly the message is ominous, but hardly bleak for the person who is forewarned and forearmed. You can boil it down to the basics of investing in turbulent times . . . crisis times.

The word "crisis" in Chinese is composed of two characters. The first is the symbol for danger. The second is the symbol for opportunity. For the investor, the problem is how to survive. For the speculator, the challenge is how to realize a profit. Metals may be just the answer.

SOURCES OF STATISTICAL INFORMATION

Annual

Commodity Year Book, Commodity Research Bureau, Inc., One Liberty Plaza, New York, New York 10006.

Metal Statistics, American Metal Market (Fairchild Publications, Inc.) 7 East 12th Street, New York, New York 10003.

Mineral Industry Survey (annual issue and annual preliminary issue), U.S. Bureau of Mines, Washington, D.C. 20241 (Note: There is an annual survey for each non-ferrous metal.)

Yearbook (Non-ferrous Metals), American Bureau of Metal Statistics, 420 Lexington Avenue, New York, New York 10017.

Handy & Harman Annual Review, Handy & Harman, 850 Third Avenue, New York, N.Y. 10022.

Monthly

Latest Silver Institute Refining Statistics, The Silver Institute, 1001 Connecticut Avenue, N.W., Washington, D.C. 20036.

Mineral Industry Survey, U.S. Bureau of Mines, Washington, D.C. 20241. (Note: There is a monthly survey for each non-ferrous metal.)

Refining Statistics of U.S. and Other Countries, American Bureau of Metal Statistics, 420 Lexington Avenue, New York, New York 10017.

Weekly

Metals Week (McGraw-Hill, Inc.), 1221 Avenue of the Americas, New York, New York 10020.

Daily

American Metal Market (Fairchild Publications, Inc.), East 12th Street, New York, New York 10003.

London Metal Contract Sizes

Metal	Contract Sizes	Minimum Fluctuation
Copper Wirebars	25 tonnes	£0.50
Copper Cathodes	25 tonnes	£0.50
Tin	5 tonnes	£1.00
Lead	25 tonnes	£0.25
Zinc	25 tonnes	£0.25
Aluminum	25 tonnes	£0.50
Nickel	6 tonnes	£1.00
Silver	10,000 troy ounces	£0.001
Silver (Dealer)[1]	Multiples of 2,500 with minimum of 5,000	£0.001
Gold (Dealer)[1, 2]	100 ounce minimum	£0.01

[1] May be denominated in U.S. Dollars.

[2] Purchases may be arranged in smaller quantities and various forms, e.g. kilogram bars. There is usually a premium.

Trading Times London*

Morning Session (Official)	
11:50–11:55	Silver
11:55–12:00	Aluminum
12:00–12:05	Copper Wirebars & Cathodes
12:05–12:10	Tin
12:10–12:15	Lead
12:15–12:20	Zinc
12:20–12:25	Nickel
12:25–12:30	INTERVAL
12:30–12:35	Copper Wirebars
12:35–12:40	Copper Cathodes
12:40–12:45	Tin
12:45–12:50	Lead
12:50–12:55	Zinc
12:55–13:00	Aluminum
13:00–13:05	Nickel
13:05–13:10	Silver
Afternoon Session (Unofficial)	
15:30–15:35	Lead & Zinc
15:35–15:40	Copper Wirebars & Cathodes
15:40–15:45	Tin
15:45–15:50	Aluminum & Nickel
15:50–15:55	Silver
15:55–16:00	INTERVAL
16:00–16:05	Lead
16:05–16:10	Zinc
16:10–16:15	Copper Wirebars
16:15–16:20	Copper Cathodes
16:20–16:25	Tin
16:25–16:30	Aluminum
16:30–16:35	Nickel
16:35–16:40	Silver

* Greenwich Mean Time (GMT).
British Summer Time 1 hour ahead of GMT.

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SUGAR AND ITS SHIFTING ROLE IN THE WORLD ECONOMY

BY GEORGE T. HIRAI

Historically, sucrose long held the preeminent place as the primary sweetener in the world food industry. With the exception of synthetic sweeteners (cyclamates, saccharine and others), there had been no substitutes which could economically compete. Additionally, sugar had always confined itself to the food and nutrition segment of the world economy. Today, because of the turbulent economic climate, research and development are providing competitive sweeteners, and the use of sugar in non-food industries is being explored.

This departure from sugar's traditional place in the economy will necessitate a shift in the economic forecasting methods of the past.

Introduction & History

Cane sugar has been known since ancient times, and man has gone to great lengths to raise his economic standards so that he could maintain sugar in his diet. Cane sugar is thought to have originated in India 800 years before Christ. The crop then migrated to China, Persia, Arabia, Egypt and finally to Sicily and Spain in about 700–725 A.D. For western nations, the modern sugar industry probably began around 1500 with the conquistadors.

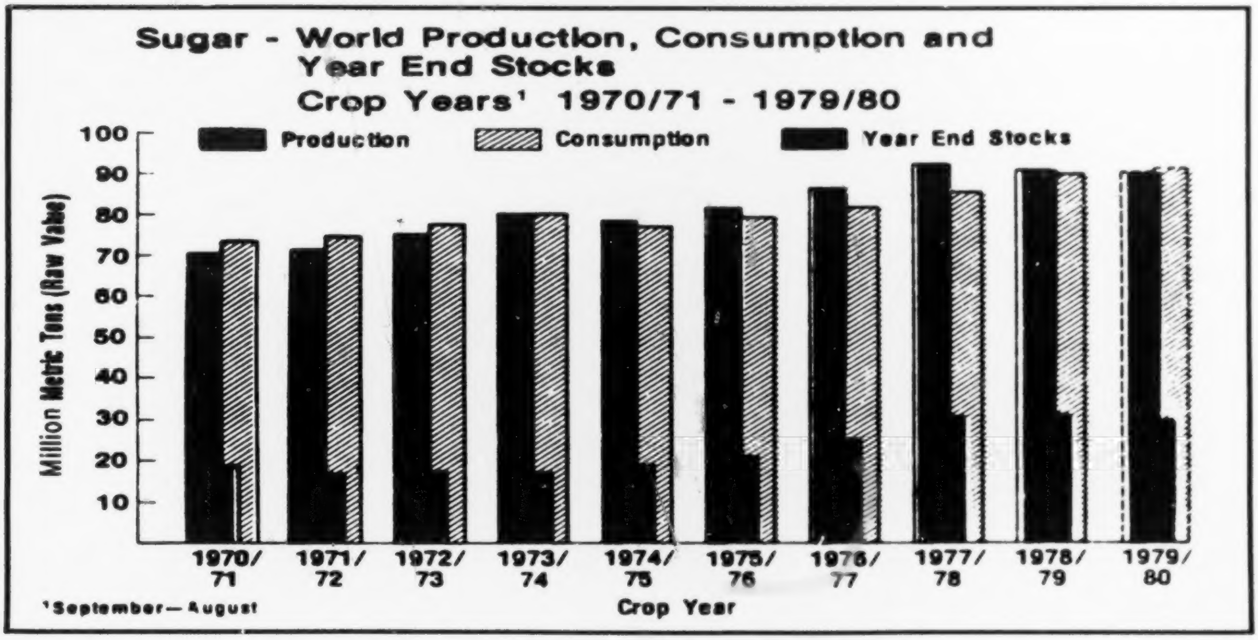
As plantations grew in the West Indies, tobacco, grain, and cotton, as well as sugar, were commercially developed to satisfy the ever-increasing appetites of the economically emerging European nations. But the transition from the early beginnings of the sugar industry to today's modern production has left intact the basic chain of producers, exporters, shippers, refiners, and consumers.

The sugar beet industry was of later vintage, but it has been fully integrated into the world sucrose community. The beet industry was an outgrowth of military and economic necessity. When Napoleon was blockaded by other European powers in 1811, France's access to West Indian sugar was impaired. In order to meet the relatively inelastic demand for sweeteners, the French and European sugar beet industry was created.

World Production 1900–1980

With two sources for sucrose, cane and beet, the world sugar industry has grown from a yearly production of under 12 million tons in 1900 to roughly 90 million tons today. The industry has also enjoyed major economic and technological breakthroughs during its development. Today, the sweetener industry seems to be shifting away from considering sugar only as a food ingredient. While sucrose will continue to retain its world dominance as a nutritive sweetener, other pressures are being placed on both the supply and demand side of the sweetener equation.

Exhibit 1



Forecasting Supply and Production

The world sugar and sweetener industry conducts price forecasting through traditional supply and demand balance sheets. These studies examine the beet and cane production statistics for the supply side of the equation.

In the case of cane, the 18-month cycle of harvesting, plus the residual harvesting benefits of the hand-cut cane, create comparatively longer crop cycles. Cane production is also viewed as relatively insensitive to short-term changes in the world sugar price, since it is unable to respond rapidly to price shifts.

The beet segment of the industry, however, is able to react seasonally to price change. Since beets are planted in the spring and harvested in the fall, it is relatively simple to expand and contract acreage on an annual basis. In both the cane and beet production areas, internal national support programs tend to retard the rapid expansion or contraction of crops.

While some sugar is produced in nearly every country, the bulk of world production is concentrated in about ten producing nations. The largest are: the USSR, Cuba, Brazil, China, India, the United States, France, West Germany, Australia and the Philippines. These countries alone accounted for over 55 percent of the world sugar production in 1979.

With such a large concentration of production in a few major producing countries, supply forecasting can focus on examining key producers and producing regions. The pitfall of forecasting, however, is that while total production can be projected for individual producers, the exportable surplus is often dictated by state planners and can be extremely difficult to estimate.

As a rough guide, world supplies for sugar have been expanding over the last 20 years at an annual rate of roughly two million tonnes (metric tons). This increase reflects not only the demographic effect on demand, but also the willingness of cane producers to continue expanding acreage, despite a history of low returns for their efforts.

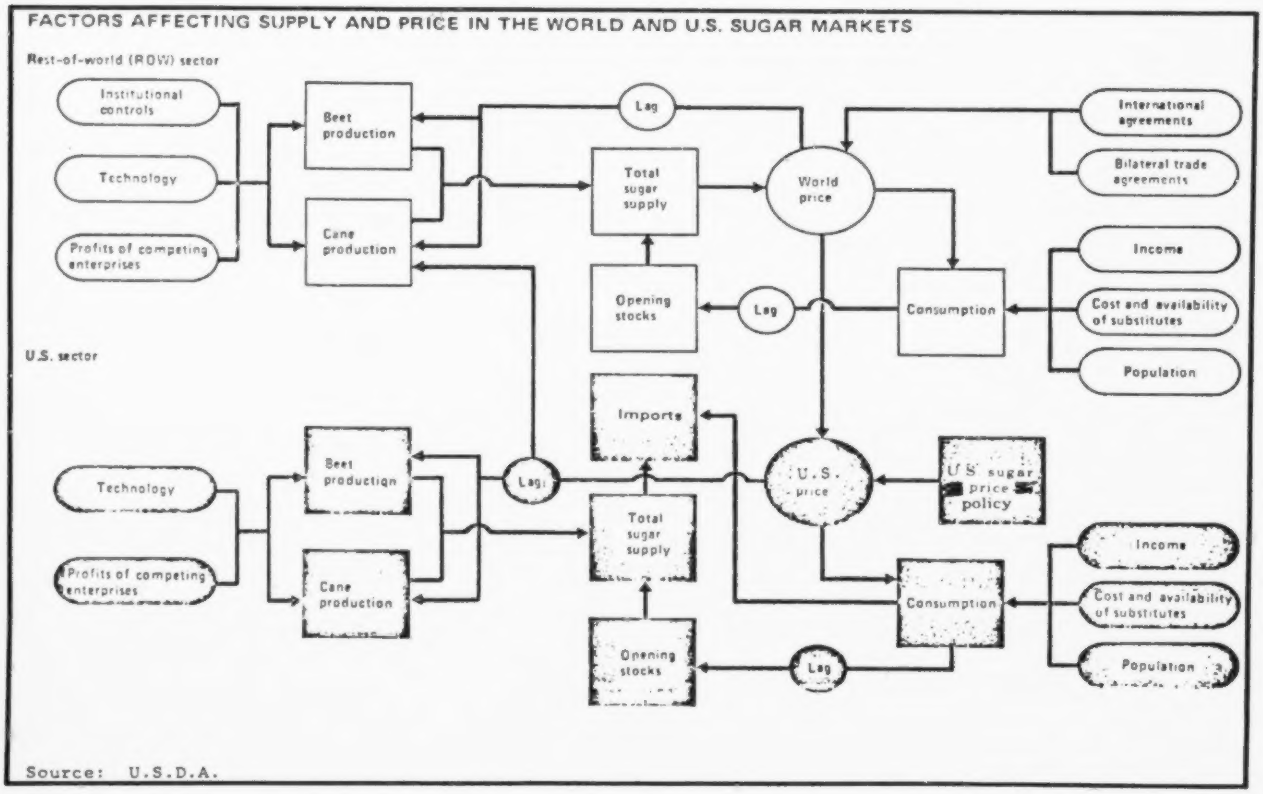
Forecasting Demand/Consumption

In traditional economic periods, world sugar demand has been considered relatively inelastic. Despite minor shifts in prices, consumption of sugar tends to remain fairly constant. The steady increase in consumption reflects both improved world economic standards and the growth of population. However, in times of extreme price dislocation, as in the bull market of 1974, demand elasticity asserted itself by contracting both the per capita and the total consumption of sugar in the world.

Demand for sugar is usually determined by the dietary needs of various world regions, and in developed economies it can be affected by fashionable dietary practices. In highly developed areas, such as the United States, sucrose consumption has been seen to decline because of dietary fads and the introduction of sweetener substitutes. Currently, it is fashionable to reduce sugar intake in the United States through the use of diet drinks and foods, and per capita usage of sugar has been on the decline. Additionally, as the nutritive sweetener HFCS (High Fructose Corn Syrup) has gained acceptance, the per capita sucrose consumption in the United States has been reduced further.

In less developed areas, the demand for sugar is a constant factor in normal times, but as income levels improve, sugar usage tends to increase at a disproportionate rate.

Exhibit 2


FACTORS AFFECTING SUPPLY AND PRICE IN THE WORLD AND U.S. SUGAR MARKETS

Source: U.S.D.A.

There are four factors that determine the size of demand for any given crop:

1. The amount of discretionary disposal income in the world food budget. This amount can be determined by subtracting the cost of necessities from the total food budget.
2. The political and economic climate of consuming and producing nations. Since producing countries regulate sugar consumption domestically, this becomes difficult to ascertain. For example, India, a major world producer of sugar, can either consume sugar domestically or export large quantities. This decision is predicated on foreign exchange requirements. Therefore, despite internal shortages, the government might export sugar in order to generate foreign exchange for the purchase of other more vital commodities.
3. The demographic expansion during the period being analyzed. The demographic side of the demand outlook can be forecast by projections of population growth through use of established trend-following methods. By applying linear regression analysis to population growth, various statistical agencies have accurate estimates of world population. Through usage of income elasticity and demographic estimates, fundamental demand forecasts can be created.
4. The psychological element. A final demand factor which is unquantifiable is the psychological element: the fear of shortage. The desire to hoard always increases in times of impending political or military crisis. Storage entails considerable costs, and in normal times this expense discourages hoarding. In unsettled times, however, panic and fear can disrupt fundamental demand forecasting efforts.

When all the consumption factors are weighed and analyzed, the two sides of the statistical equation can be combined to determine if consumption will equal, exceed, or fall short of production. This distilled statistic will reflect upon the year-end stock figure, which, in the sugar trade, is considered the most important element in price forecasting.

Factors Retarding the Functioning of Fundamentals

While examining supply and demand factors, it has been assumed that the laws of rational economics are usually operative within the sugar world. Unfortunately, this is not always the case.

While logic would dictate that sugar and sweeteners be produced by nations enjoying the greatest economic cost advantages, this is not always true. An examination of major producers shows that many have high standards of living and high labor costs per tonne of sugar produced. Similar uneconomic situations exist in many other basic food commodities due to fear.

Nations fear the loss of food supplies and therefore promote self-reliance for food commodities, despite economic inefficiencies in their agriculture. These economically strong industrial nations merely subsidize domestic production through internal income redistribution. The farmer becomes the recipient and the industrial and consuming sectors the contributors.

This philosophy tends to create various programs whose primary objectives are to exclude imports and foster domestic production. Sometimes these programs become too successful and, depending on the internal political situation, cause unusual economic behavior.

The European Community and the United States are two examples of production capacities insulated within national agricultural policies. In the U.S., through acreage controls and price supports, farmers often are encouraged to produce sugar in periods of world surplus. In Europe, the EC has similar internal agricultural policies which do not respond rapidly to the international sugar situation.

It is therefore an economic anomaly that the EC pays subsidies for sugar production and then must pay additional subsidies to make this high-cost sugar exportable. This type of non-economic behavior tends to create difficulties in price forecasting.

The USSR, however, has been one of the primary beneficiaries of export subsidies paid by the Western European sugar-producing community. Additionally, many Middle Eastern importers of refined sugar have benefited from the largesse of the European export subsidy system. On certain occasions, European refined sugars have even attempted to penetrate the duty barriers of the U.S. import system. However, these efforts to enter the U.S. market have been only partially successful, since countervailing duties have been imposed on refined sugars from Western Europe.

The United States has also supported the domestic price of sugar, but to a lesser extent since nearly one-half of the sugar consumed in the U.S. is imported raw cane sugar. Because of this heavy reliance on raw imports, the U.S. protects only its domestic production and does not conduct export subsidy programs.

As illustrated by the foregoing examples, production cycles can be protracted by protective legislation. The historical 5- to 8-year price cycles are partially attributable to politics as well as to the agricultural practices of the producing nations. Therefore, to estimate supply and demand prospects, not only do acreage, yields, and weather have to be weighed; politics and periodicity of sugar crops must also be evaluated.

Emerging Supply and Demand Factors

While sucrose will remain the primary nutritive sweetener around which all price forecasting models will have to revolve, there are now additional factors which will encroach upon the traditional supply and demand analysis.

On the supply side, sugar from cane and beets will meet serious competition in industrialized nations from high fructose sweeteners. In the U.S., high fructose sweeteners will be derived from corn as the primary carbohydrate source. However, the technology of converting carbohydrates to sweeteners permits a broad latitude of carbohydrate sources. HFCS (High Fructose Corn Syrup) is an alternative nutritive sweetener which can compete aggressively with sugar when grain prices are competitive.

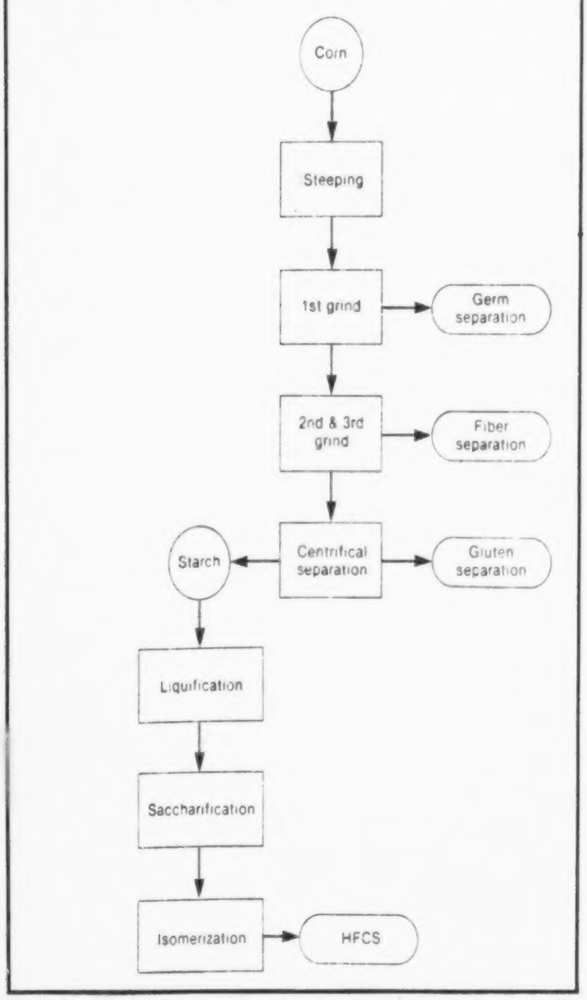
An industry rule of thumb is that a 50-cent-per-bushel reduction in the price of corn, which accounts for about one-half of the total HFCS production cost, results in a 1-cent-per-pound reduction in the cost of manufacturing HFCS. However, sales of corn oil and corn feeds, the major by-products of HFCS production, in recent years also have enabled the wet millers to recover from 50 to 70 percent of the per-bushel cost of their corn. Sales of by-products from either beet or cane sugar production are not as important a balancing factor in the costs of producing sucrose.

Because of sweeteners from carbohydrate sources, the future price forecasting models will no longer be able to concentrate purely on cane and beet as a sweetener source. Should grain prices continue at a relatively lower value than current sugar prices and should this ratio hold into the foreseeable future, it is probable that sugar utilization will be severely affected in industrialized nations which can finance and develop high fructose capacities.

While the state of the art in the manufacture of high fructose corn syrup has not developed to the point that granulated sugar can be replaced, current technology can replace a significant portion of the liquid and industrial sweeteners.

Exhibit 3

Simple Flow Chart, HFCS Production Process



U.S. Corn Sweetener Usage Per Capita

	Dextrose	Corn Syrup (Pounds—Dry Basis)	HFCS	Corn Total
1979	4.2	18.5	15.0	37.7
1978	5.1	18.4	11.0	34.3
1977	5.4	18.0	9.0	32.4
1976	5.4	17.0	7.5	29.9
1975	5.4	16.2	5.1	26.7
1974	5.9	17.1	3.3	26.3
1973	5.7	16.2	1.4	23.3
1972	5.2	15.4	—	20.6
1971	5.7	13.8	—	19.5

U.S. Corn Sweetener Usage Million Cwts.—Dry Basis

	Dextrose	Corn Syrup	HFCS	Corn Total
1979	11.0	40.0	28.0	79.0
1978	11.0	40.0	24.0	75.0
1977	11.7	38.9	19.4	70.0
1976	11.6	36.4	16.1	64.1
1975	11.5	34.5	11.0	57.0
1974	12.5	36.0	7.0	55.5
1973	12.0	34.0	3.0	49.0
1972	10.9	32.0	—	42.9
1971	11.7	28.4	—	40.1

Source: Lamborn & Co.

While the impending encroachment from fructose may appear a threat to the sucrose industry, sugar has also found new areas of consumption.

Energy Potential of Sugar

The development of high fructose sweeteners, far from spelling the end for sucrose demand, probably comes upon the technological scene at precisely the right moment. With recent growing energy demands throughout the world and with the accompanying skyrocketing of prices for petroleum-based products, the sugar industry is presented with a major alternative outlet for its product.

The conversion of sugar to alcohol and other carbohydrate-based commodities offers tremendous potential for the utilization of former bulk food commodities.

Through the ability to convert carbohydrates into alcohol and thereby augment petrochemical and petroleum needs, the future prospect for the use of sugar and sucrose is greatly enhanced. Brazil is currently converting substantial (up to 15 percent of its crop) quantities of sugar into alcohol in order to expand its gasoline supply. Mixtures containing up to 15 percent sugar-based alcohol currently are consumed in vehicles in Brazil. The economics of this type of substitution become more attractive as the prices of petroleum products increase through the machinations of the OPEC cartel.

This new outlet for sucrose will materially affect the forecasting equation. The outlook for the consumption side of sugar will now have to consider the price of petroleum, petrochemicals, and other energy sources.

From an economic model which forecasts the production and consumption of a nutritive sweetener, the total price model for sugar is now expanding into agricultural, industrial, and political arenas.

Sugar Outlook for the 1980s

The decade of the Seventies saw prices reach 65 cents in the world FOB markets and also saw prices plunge to below production costs on several occasions. The causes of these price shifts were both political and economic and were reflected in world sugar values. The high prices were the result of greatly reduced world stocks (20 percent of annual consumption) which caused emotional buying by a host of national interests in a tightening world sugar market. Mid-East, European, Asian and American interests all seemed to perceive a severe shortage at the same time, and in the ensuing stampede; prices reached historic highs in 1974.

The high prices of the mid-70s, however, prompted overproduction in the late '70s, and producers were again confronted with a record surplus of well over 30 percent of annual consumption in year-end stocks. At both extremes, efforts to temper the excesses of the price action were only partially successful. The resulting strain placed on producers and consumers caused renewed interest in promoting stability in world sugar markets.

Throughout the 1970s, the International Sugar Organization (ISO) attempted to create a workable agreement with the support of as many participants as possible. Having worked at stabilizing world sugar prices since 1931, when the first International Sugar Agreement (ISA) was signed, some success might have been expected. Unfortunately, the '70s did not produce a completely workable agreement.

Beginning in 1980, however, the ISA will again try to moderate the excesses of price swings in the world market. This time the membership will include the largest single importer of sugar, the United States, not previously a member of this international body.

With the possibility of a viable sugar agreement in the '80s, the initial outlook is for higher, if not more stable, prices. Since the new agreement is drawn under the guidance of the Food and Agriculture Organization of the United Nations, the thrust of the agreement is strongly aimed at aiding and protecting Less Developed Countries (LDCs). For this reason, it can be assumed that the industrialized, developed nations will be asked to bear a greater economic burden within the world sugar community.

While the motives behind this policy stem from the composition of the United Nations, the economics of the agreement, if adhered to, can point only to higher prices for importing nations.

New Politics and Economics of the '80s

While the International Sugar Agreement will tend to support prices in the '80s, there still remains one major producer missing from its membership. The EC, with its large Western European beet production capacity (12 million tonnes), still remains outside the sphere of the International Sugar Organization. This potentially destabilizing factor could undermine the smooth operation of the ISA.

In addition, the closing of the '70s created new and dynamic shifts in political and economic power. In an extremely brief time span, the economic focus has shifted away from the traditional western powers. With the advent of the OPEC group, major realignments in politics and economics have been reflected in the rapid revaluation of currencies and commodities. Precious metals and inflation rates led the way in heralding the increase in power of the energy-producing nations of the world.

This rapid shift in the balance of economic power seems to be causing political and military friction in regions where diverging energy and political interests abutt. Should underlying tensions persist in a protracted resumption of a "cold war," sugar and all commodity prices will be trending higher, pushed by inflationary and political forces.

What the '80s May Hold for the Producer of World Sugar

When confronting the new decade, the producer can anticipate higher prices for his product. Sugar will have to return a greater price if only to compensate for at least a portion of the inevitable rise in variable costs. The producer may be aided in the quest for higher prices by the newly ratified International Sugar Agreement. However, should inflationary pressures exceed expectations, it is likely that prices of sugar may reach and sustain levels far in excess of currently established ISA corridors. If such a situation develops, production costs will also escalate, probably negating the gains attained on the selling price of sugar.

Should the early '80s see prices which surpass ISA corridor levels, producers will be confronted with the specter of a renewed cycle of overproduction in the middle to latter part of the decade. Additionally, a redrawing of the International Sugar Agreement would be sought by producers in order to protect price gains.

For the next 10 years, producers should enjoy periods of prosperity. However, if production costs escalate, it is likely that profitability will again be strained in the latter portion of the upcoming decade.

What the '80s May Mean to the Consumer

The decade of the '80s will almost certainly begin with sharply higher prices for the consumer. The cycle of contracting year-end stocks on the world balance sheet seems to be developing quite rapidly, as can be seen from Exhibit 4 on the following page. It would appear that the trend of contracting stocks will continue for the first two to four years if historic precedents are repeated.

Additionally, when prices begin to respond to the dampening effects of a resurgence in sugar and sweetener production, the price declines will probably not match the low levels attained in either the '70s or the '60s. Because of the current and projected inflation rates over the next three to five years, it is extremely unlikely that, in terms of nominal dollars, sweetener prices will ever seek a floor level under 10 cents.

While consumers may suffer periods of discomfort due to pricing activities, enough liquidity in prices from season to season should permit costs to be averaged. Hopefully, the retail consumers will end the coming decade spending the same percentage of their food budget on sweeteners.

While it is too early to determine when the non-sucrose sweeteners will materially affect sugar prices, this factor may prevent sugar prices from sustaining excessive price levels. Unfortunately for the consumer, it is uncertain at this time whether high fructose sweeteners will be able to make significant inroads over a broad segment of the world sweetener economy. Because of high capital costs, investments in plant and equipment could be a major problem for capital-deprived economies. In addition, even in countries where capital investment needs can be met, there is always the possibility that the primary carbohydrate source may attain prices which would make fructose conversion uneconomical.

Because of these uncertainties, the next 10 years should see consumer prices above the average levels seen in the previous two decades. Although protracted periods of relatively lower prices may be posted, it is unlikely that prices will trade below 10 cents due to economic and geo-political shifts surrounding the world sweetener situation.

The 1980s: The Decade of the Dealer and the Speculator?

The '80s, with its prospect of high volatility in economics and politics, should offer tremendous opportunities to persons and corporations who assume risks on a commercial or speculative basis. These parties—unlike producers, growers, processors, or industrial users—are not in a position to "pass along" cost increases to the next participant in the distribution chain.

Since dealers, known as operators in the world markets, assume title to physical sugar, their risk assumption traditionally requires an immediate decision whether to hedge through either a forward physical sale or a sale of futures. The timeliness of this decision and the fulfillment of the physical delivery is basically the sole measure of a successful trade.

The speculator, on the other hand, while traditionally not involved in physical markets, voluntarily assumes the risk in the event the operator decides to hedge or unhedge his physical position. For the market to operate, speculators perform the service of voluntary risk assumption. The motivation for this voluntary act of risk taking is, of course, potential profit.

For the operator and the speculator to make rational decisions, a broad objective and subjective evaluation of the sweetener situation must be conducted.

Decision Making Sequence for Hedgers and Traders

In analyzing the potential risk/reward ratios, the basic method of decision making remains the supply and demand balance sheet. This traditional economic tool enumerates the basic price determining factors of:

1. crop production (supply)
2. consumption (demand)
3. year-end stocks (inventories or carryover stocks)

In examining each of these major groupings, only an outline is feasible, given the complexities of each subtopic.

Crop/Production (Supply)

A. Prospects for cane production.
B. Prospects for beet sugar production.
C. Prospects for nutritive sweeteners (fructose).
D. Outlook for the manufacture and usage of non-nutritive sweeteners (saccharine, cyclamates, etc.).
E. Local or national legislation either promoting or retarding the production of sweeteners.

Exhibit 4

Sugar: World production, consumption, and stocks, raw value, 1973-79[1]

Crop year	Production				Consumption		Foreign trade balance[3]	Ending stocks		Ending stocks as a percent of consumption
	Cane	Beet	Total[2]	Change from previous year	Total	Change from previous year		Total	Change from previous year	
	Million short tons									*Percent*
1973	52.9	35.3	88.2	5.4	88.2	2.6	-0.2	19.3	0.2	21.88
1974	55.1	31.4	86.5	-1.7	84.9	-3.3	-.2	21.1	1.8	24.85
1975	55.0	34.9	90.1	3.6	87.2	2.3	.6	23.4	2.3	26.83
1976	59.0	36.2	95.1	5.0	90.1	2.9	.5	27.9	4.5	30.97
1977	63.4	38.6	102.0	6.9	94.4	4.3	1.3	34.2	6.3	36.23
1978	60.8	38.8	99.6	-2.4	98.5	4.1	0	35.3	1.1	35.44
1979[4]	57.3	36.8	94.1	-5.5	100.3	1.8	0	29.1	-5.1	30.92
	Million metric tons									*Percent*
1973	48.0	32.0	80.0	4.9	80.0	2.3	-0.2	17.5	0.2	21.88
1974	50.0	28.5	78.5	-1.5	77.0	-3.0	-.1	19.1	1.6	24.81
1975	49.9	31.7	81.7	3.2	79.1	2.1	.5	21.2	2.1	26.80
1976	53.5	32.8	86.3	4.6	81.7	2.6	.5	25.3	4.1	30.97
1977	57.5	35.0	92.5	6.2	85.6	3.9	1.2	31.0	5.7	36.21
1978	55.2	35.2	90.4	-2.1	89.4	3.8	0	32.0	1.0	35.79
1979[4]	52.0	33.4	85.4	-5.0	91.0	1.6	0	26.4	-5.6	29.01

[1] Crop year September/August, but include the outturn of sugar from harvests of several Southern Hemisphere countrias which begin prior to September. [3] May not add due to rounding. [3] Minus sign indicates imports were larger than exports. [4] Preliminary.

Source: U.S.D.A.

F. International agreements which may affect production (ISA, EC, etc.).
G. The currency situation, which may affect the need of LDCs for hard currencies. This could expand exports at the expense of domestic consumption in order to meet currency requirements.
H. Economic, political, or military situations in the world which may promote or retard sweetener production.

These supply factors can each be minutely analyzed, and each examination will lead to new and divergent factors. However, a general review of the foregoing outline should touch upon the main supply factors involved in the world sugar supply situation.

Consumption (Demand)

The demand side of the equation can also be outlined in skeletal form. But unlike the supply side of the balance sheet, the demand factor tends to be more subjective, leaning toward emotional or human factors rather than the objective statistical qualities of the supply functions.

A. Per capita usage of sucrose as a nutritive sweetener (demographic study).
B. Geopolitical regions with improving incomes seeking enlarged usage of nutritive sweeteners.
C. Potential alternative uses for sucrose.
D. Utilization of other nutritive sweeteners.
E. Use of non-nutritive sweeteners.
F. Local or national quotas, duties, levies, fees or tariffs which affect the use of sweeteners.
G. International agreements which could promote or reduce sweetener consumption.
H. Regional dietary fashions which could promote or retard sweetener use.
I. World consumer confidence levels, especially in LDCs, which could affect sweetener use.
J. The outlook for military or political action which could influence emotional hoarding by industrial and/or retail users.

The consumption side of the balance sheet is far more difficult to quantify. In examining the usage of sweeteners it is usually safe to assume an ever-increasing demand for sweeteners as long as price levels do not test the extremes of demand elasticity.

In analyzing the year-end or carryover stocks, the traditional guide in sugar studies is to express the stocks as a percentage of annual consumption. This method plus the expression of year-end stocks in terms of number of days usage is helpful in visualizing year-end inventories.

In outline form the determination of year-end stocks involves some of the following factors:

Year-End Stocks (Inventory Carryover Stocks)

A. Total world production.
B. Total estimated world consumption.
C. Shifts in world pipeline inventories.
D. Estimated stocks in producer hands.
E. Estimated inventories in refiners' and industrial users' control.
F. Stocks held in official hands, both under national and international control.
G. Phantom stocks caused by either over- or underreporting by various producer or user groups.

With the exception of the item G., statistics are available from various official or semi-official statistical reporting groups. There are often conflicting statistics reported by various agencies, and as in "numbers crunching" everywhere, judicious use of common sense is always needed to resolve disparities.

When the total tedious process of reviewing the world sugar and sweetener situation is concluded, a calculated guess can be attempted as to a price forecast for the subsequent time frame.

When the ephemeral number is finally generated, it becomes the nucleus which will impact upon supply, demand and year-end stocks of the subsequent time period. The entire evaluative process is now ready to start again.

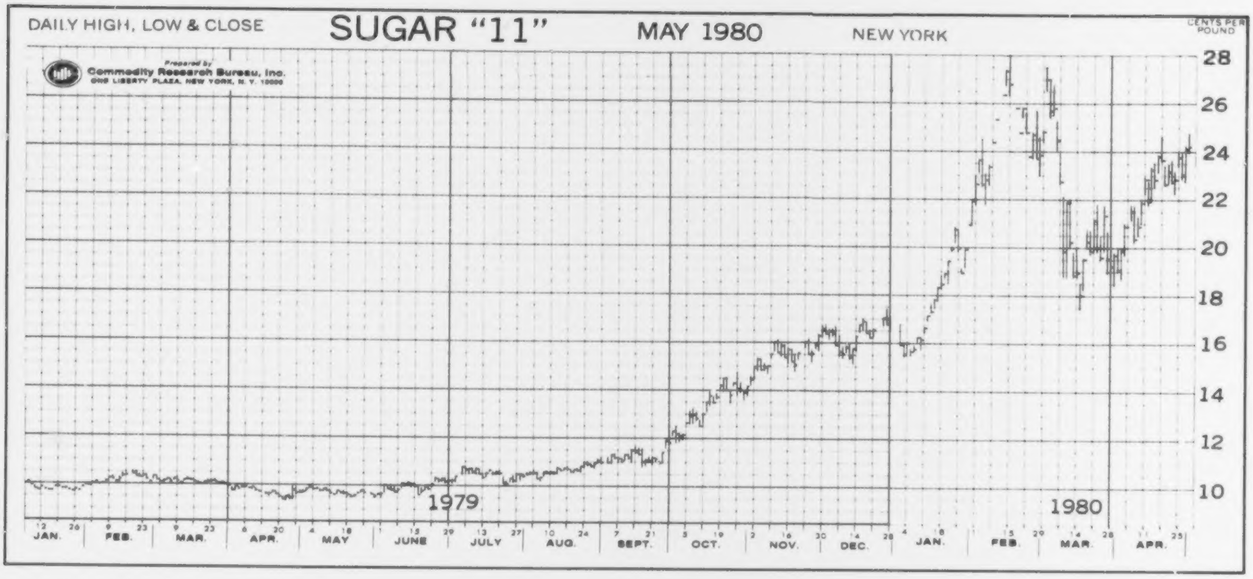
Conclusion

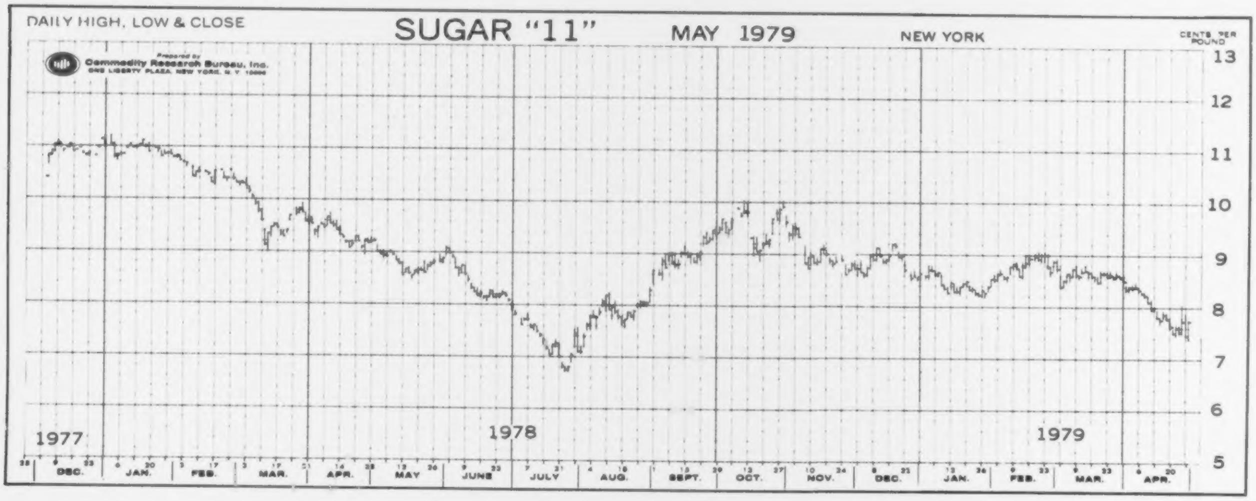
After centuries of being the primary sweetener in the food industry, the dominance of sugar is being challenged. High fructose sweeteners have been developed which can economically compete with sucrose. Contingent upon the availability of carbohydrates and capital, the competition for the nutritive sweetener market should intensify.

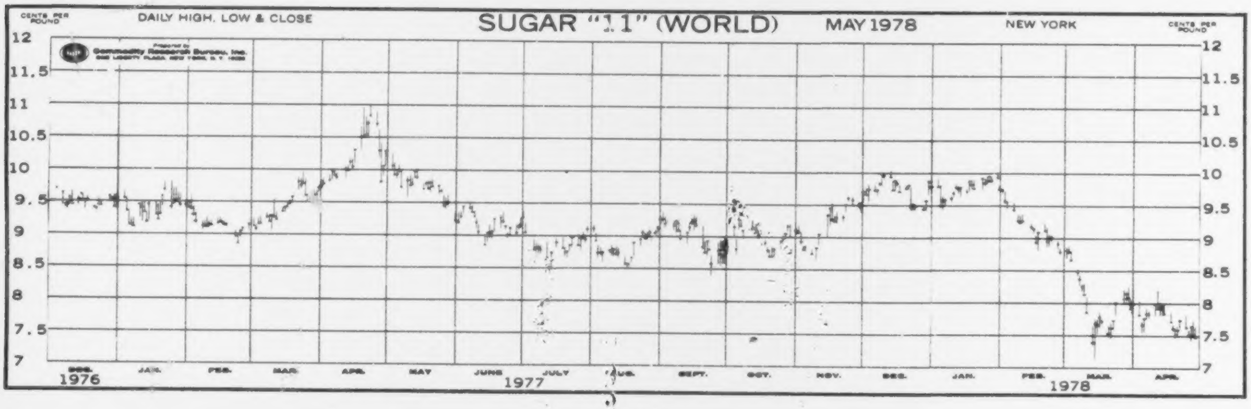
While the demand for sucrose as a sweetener may diminish, other markets for sugar are rapidly expanding. As a result of the explosive rise in the cost of petroleum, the alchohol potential of sugar has become economically attractive. Sugar as a fuel source is currently being exploited in Brazil and promises to find wider acceptance in the coming decade.

These developments will affect the forecasting of sugar prices. Instead of exclusively examining the sucrose industry, the grain, food and energy sectors of the economy will also have to be analyzed. This analysis will have to encompass international political, economic and military developments as well as the traditional agricultural factors.

Because of these shifts, the decision-making process for all traders will require greater concentration on macroeconomic considerations.







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SPREAD OPPORTUNITIES IN LIVESTOCK FUTURES

BY PHILLIP E. TIGER

The past two decades have witnessed an unprecedented rate of growth in the commodity futures markets. Changing economic conditions both here and abroad have increased public awareness of the forces which affect the prices of goods and services and have directed much of that attention to commodity futures trading. This focus has led to the development of many new markets where the necessity of hedging has been accompanied by a willingness by investors and speculators to participate in the equity changes inherent to constantly changing price structures. The leaders in the field of new futures contracts were the livestock markets. Pork belly trading began in September 1961—to be followed in November 1964 by live cattle -and in February 1966 by hogs. Feeder cattle futures trading began early in 1971. Livestock futures have evolved since their inception until today they share center stage with grains, metals, and other major markets as primary areas for commodity futures participation.

Within the structures of all markets are factors which determine discounts and premiums between different delivery months of given commodities or between similar deliveries of different but related markets. These spread differentials (sometimes termed straddles or switches) are popular trading vehicles in themselves, and the livestock markets for many reasons are particularly appropriate for the spread trader.

The nature of livestock growing and marketing patterns is particularly cyclic. Until the decade of the Seventies, many participants in the hog and cattle markets would speak of distinct and regular patterns of four years in hogs, nine years in cattle. These cycles were for the most part independent of other agricultural and economic cycles, depending more on the longer term factors surrounding feeding, herd building, marketing, and herd liquidation than upon shorter term factors relevant to yearly (seasonal) cycles of marketing and harvest. Scientific and economic advances allowing for better definition and anticipation of feed crop sizes, economic cycles, and the ever-increasing influence of world markets have tended to accelerate the livestock cycles and affect length by making it possible for growers and users to modify the cycle in anticipation of changes.

Consider that corn, the primary feed constituent, has become dominantly an export commodity, where only 10 years ago more than 75 percent of the crop was consumed domestically. The futures markets themselves have contributed to the shortening of hog and cattle cycles, as hedgers (those using futures to protect profit in actual operations) were able to modify their position in line with the increased protection against adverse price changes afforded by the market place. While the major cycles still exist, their lengths have become even harder to define, and traders and hedgers have focused their attention on the greater consistency of the yearly or seasonal cycles which have remained strong and viable for all meat markets.

Livestock Seasonal Characteristics

The seasonal tendencies of the meat markets are based on two major factors: the corn crop year and weather. The hog markets follow the corn crop closely as marketings are seasonally heavy in front of the planting and harvesting seasons (with spring and fall farrowing following the anticipated patterns). Conversely, supplies of marketable hogs tend to be somewhat lighter in early summer and midwinter.

Cattle follow similar patterns extended over a longer term as they are placed on grass in summer. Marketings are most heavy in late autumn as they come off grass and more expensive feeding is required. The longer time needed to grow cattle to slaughter weight prevents their being overly responsive to the crop year. Therefore, cattle tend to have cycles which are appropriately twice as long as those for hogs.

These seasonal patterns have their greatest manifestation in the spread relationships as seasonally strong and weak months reflect their differences by appropriate premiums and discounts. The longer overall cycle contributes to these spread structures by supporting bullish spreads when in the bullish phase of the longer cycle and supporting bearish spreads (or reducing the potential of bullish spreads) when in the negative phase of the cycle. A brief examination is appropriate of the seasonally strong and weak delivery months of hogs and cattle.

Commodity	Delivery Month	Normal Seasonal Characteristics
CATTLE	January	Normally steady—subject to strength as a result of severe winter weather.
	February	Firm—subject to strength as a result of severe winter weather.
	April	Weaker than February but strong towards expiration.
	June	Strongest of the cattle deliveries.
	August	Transition of strength to weakness.
	October	Weakest of the cattle deliveries.
	December	Stronger than October, but weaker than February.
HOGS	February	Strong—particularly during severe winter weather.
	April	Weak—pre-planting marketings.
	June	Strong—strongest period for hog futures.
	July	Strong—strongest period for hog futures.
	August	Transition of strength to weakness.
	October	Weak due to pre-harvest marketings.
	December	Transition of weakness to modest strength.

Livestock Spreads

Pork bellies and feeder cattle futures tend to reflect the strengths and weaknesses of the parent markets. However, one must always remember that it takes approximately five months to turn feeder cattle into marketable fat cattle.

The strong seasonality of the meat markets has generated some favorite interdelivery spreads within each market. The increased popularity of feeder cattle and their distinct relationship to fat cattle have provided both hedgers and speculators with consistent opportunities. Hogs versus cattle have also held the spotlight consistently. The only intermarket relationship which has deteriorated over the years has been that between pork bellies and hogs as the value of other pork cuts have overshadowed the tenuous price relationships which have existed between hogs and frozen bacon. The reader may find it useful to review the concepts of spread trading before examining the various meat spreads in greater detail.

The Nature of Spreads

A commodity spread (or straddle) is the measure of the relationship between two things. The spreader is concerned less with absolute value than with this price differential and must, therefore, have the discipline to divorce his thinking from the bullish or bearish forces affecting the market. Instead, the spread trader must be alert to relatively bullish or bearish influences as they relate in time to the two deliveries under scrutiny. There are four categories of spreads but only two which are of interest to the meat trader: the *interdelivery spread* and the *intercommodity spread*.

The *interdelivery spread* is the most popular type of spread. It involves two different delivery months of the same commodity traded on the same exchange. Some examples would be June versus October cattle, February versus April hogs, or May versus July pork bellies.

Within the category of interdelivery spreads are included the so-called "limited risk" or carrying charge spreads. This special type of spread is applicable within the meat group only to pork bellies, the only storable commodity within the group. Live cattle, feeder cattle, and hogs are not storable, since there is only a limited time when they are of proper weight and grade for delivery.

Therefore, traders should never consider discounts in the live markets to have any distinct relationship to carrying charges or interest rates, since those factors are not directly applicable. The carrying charge aspects of pork bellies will be discussed in greater detail later in this study.

The other principal type of meat spread is the *intercommodity spread*. This is a spread between two different but usually related commodities—usually on the same exchange and in the same delivery month. Some examples would be June cattle versus June hogs, July pork bellies versus July hogs or May feeder cattle versus October fat cattle. Note that the feeder/fat cattle relationship does not involve the same delivery month but rather the delivery month of fat cattle which relates appropriately to the delivery month of feeders in terms of the time necessary to bring feeders to market weight.

Analyzing Spreads

Commodity spread analysis is somewhat more complex than that required for net buy or sell positions. The spread trader must be alert to four major factors when considering a position. These factors are: (1) *cyclic*, (2) *historical*, (3) *fundamental* and, (4) *technical analysis*.

Cyclic analysis involves the examination of the longer term pattern for the commodity or commodities in question in conjunction with the shorter term or seasonal cycle. The influence of the longer cycle will inhibit or enhance the seasonal tendency. One particular seasonal pattern in cattle, for example, is for June cattle to gain on October cattle from approximately mid-January until approximately mid-May. When the cattle market is in the upward (bullish) wave of the longer cycles of approximately 3, 6, and 10 years, this spread can reach significant premiums for the June contract—well in excess of 400 points. When declining (bearish) cycles dominate, the spread will often have to struggle to achieve a 200 point June premium. There will also be a shift in the timing of the seasonal highs and lows in both net and spread relationships, depending on the position of the overall cycles. The shift will support the direction of the cycle so that in a bearish phase, lows will tend to occur sooner and there will be a greater amount of congestion at the lows than at the highs and vice versa.

Historical analysis involves the examination of price and price differentials relative to these of previous years. Again using the June/October cattle spread as an example, one notes that when one bought June cattle and sold October with October at a premium, the spread would have been profitable (i.e. June subsequently traded at a premium to October) every year since 1968. Note that there were several years when June was always at a premium, but study of historical differentials would greatly increase one's confidence in the trade when it could be initiated at a premium for October. Similarly, one might note the historical tendency of July pork bellies to represent value relative to July hogs when trading at or near "even money" (that is, both July pork bellies and July hogs at the same price). There is one additional factor whose importance has increased in the past five years and which must be considered when examining historical price relationships. That is the effect of continuing inflation. If one considers the March 1980 dollar in terms of equivalent value 10 years ago, one can consider the 1980 dollar to be worth approximately 40 cents in 1970-equivalent buying power. If one then compares commodity prices of 1970 with those of 1980, one can see the correlation. 1970 cattle were trading near $22.00/cwt., hogs near $14.00/cwt. and pork bellies near $25.00/cwt. Translating this to 1980 terms would put cattle at $55.00, hogs at $35.00 and pork bellies at $62.50/cwt. One should then consider, in historical terms and assuming the 10-year-old prices to have represented relative value, that cattle were in March 1980 somewhat overvalued; hogs somewhat undervalued; and pork bellies more undervalued than hogs. While this type of analysis is not absolute—and would not warrant a trade on its own merit—it does help to maintain perspective when considering relationships among the meat futures and might.

have favored more bearish posture in cattle spreads than in pork spreads in March 1980.

Fundamental analysis is the analysis of supply and demand. The supply side of the equation is abetted by a wealth of information. The USDA provides Quarterly Hog and Pig reports, Cattle on Feed reports, Cold Storage reports, et al. to help define the current and anticipated livestock and meat supplies. The problem arises on the demand side of the equation. Demand for meat is essentially determined at the retail level, and the actual consumption and resultant demand are rarely known until after the buying has occurred and often as much as a week or two later. Therefore, the meat analyst is faced with a time gap between his knowledge and anticipation of supply and his knowledge and realization of demand. It is this gap in fundamental knowledge that accounts for the difficulty pure fundamentalists often have in accurately forecasting price movement. The analysis of supply and demand, however, is very important as it can help the trader anticipate periods of heavy or short supply regardless of anticipated demand. One might expect that in a seasonally bullish period, the realization of an anticipated shortage of marketable livestock would have the effect of buoying up futures and favoring forward spreads. Conversely, even in a seasonally bullish period, an abnormally large supply will dampen price bulges and act to depress spread relationships. This was seen during the winter of 1979/80 when a milder-than-average winter contributed to heavier weights and marketings of cattle in January and February, causing many cattle spreads to make contraseasonal lows during that time.

There are many factors which must be considered by the fundamental meat analyst, including cost of feed and anticipated cost of feed (particularly at high interest rates when the grain markets reflect high carrying charges), value of other pork cuts relative to pork bellies and relative to hog prices, and estimated feeding costs relative to feeder cattle demand. However, it is that gray area between knowledge of supply and demand which is of the greatest concern to the meat analyst, and his efforts must be directed to minimizing that gap in order to gain maximum utility from the facts that are known.

Technical analysis is the study and interpretation of charts. A chart is, of course, a graphic history. Most commodity charts are graphic histories of price versus time. Charts will indicate areas of support and resistance, cycles, and perhaps most importantly, trends. Spread charts are usually drawn as line charts connecting the closing price differentials between the two items under study. These spread charts will also indicate areas of support and resistance, cycles, and trends. However, it is virtually impossible to generate a continuation (year-to-year) chart of a spread, and longer term tendencies and cycles must be discerned through interpretation of the compilation of previous years' spread charts and/or examining the long term behavior of the market or markets in question.

The spread analyst must examine all of the above factors to assure the confidence level and risk/reward ratios inherent to a trade. One can generally state that three of the four analytical groups should support a trade before one considers putting one's money on the line.

The Essential Relationships within the Meat Group

While recent major economic changes in the United States are influencing—and may be expected to continue to influence—a great many commodities and internal price relationships, traders may find it useful to examine historically some of the reliable spreads in the meat group.

Cattle Spreads

The live cattle deliveries are fairly consistent with regard to internal relationships. The three most reliable spread relationships within the cattle market are: (1) long June/short October, (2) short October/long December, and (3) long February/short April cattle.

The long June/short October spread has the highest reliability of any cattle relationship—particularly when initiated at a premium for October futures during the first quarter of the year.

Long June/Short October Cattle

Note: Life of spread is considered to be from the first day that both deliveries trade until the first notice day of the lead contract.

Note: The data presented (in points premium for the futures contract named) are optimized, and one cannot expect to have entered the trade at the absolute low and have exited at the absolute high.

Summarizing this data according to the analytical parameters presented earlier, one arrives at the following conclusions with respect to the June/October cattle spread.

June/October Cattle

Year	Date of Low	Low Differential	Date of High	High Differential	Maximum Net Change
1969	12/10/68	20 October	6/3/69	340 June	+360 Points
1970	1/12/70	20 June	4/1/70	180 June	+160 Points
1971	12/1/70	50 June	5/15/71	270 June	+220 Points
1972	12/8/71	35 June	5/26/72	255 June	+220 Points
1973	1/23/73	5 June	3/15/73	225 June	+220 Points
1974*	2/26/74	320 October	5/9/74	220 June	+540 Points
1975	1/15/75	50 October	6/4/75	920 June	+970 Points
1976	3/2/76	250 October	4/14/76	280 June	+530 Points
1977	1/5/77	220 October	5/2/77	260 June	+480 Points
1978	1/5/78	50 October	5/31/78	380 June	+430 Points
1979	11/15/79	50 October	3/22/79	530 June	+580 Points

* In 1974, the spread began at a high premium level then dropped precipitously in February before returning to previous highs.

1) *Cyclic (seasonal) tendency.* Average date of low is mid-January. Average date for the high is mid-May.

2) *Historical.* a) Highest reliability is attained when the spread can be initiated at a premium for October and preferably a premium for October of 200 or more points. b) In every one of the past 10 years, the spread has traded at a 180-point or more premium for June after March 15. c) The volatility of the spread has increased significantly since 1974 with the maximum differential of the spread expanding by more than 100 percent since that time.

3) *Fundamental.* Uncertainty over future supplies tends to depress the spread during winter. Anticipation of strong spring and summer demand combined with cattle going off feed and on grass supports the spread into late spring. Anticipation of fall marketings maintains pressure in the distant months.

4) *Technical.* The chart for the given year must be studied to determine what anomalies are peculiar to the spread in that particular year. Areas of support and resistance are usually well defined by January, and these can be used to assess risk and objectives when initiating the spread in the seasonal time-frame. Once the spread has been initiated, the trend, once established, can be used to move the stop, protect the position and maximize profits.

Note: The author prefers the use of close-only stops to protect spread positions. Once a close-only stop has been hit (based on settlement-price differentials), liquidate the position the following day shortly after the opening. While the potential for increased liability is inherent to this method, history has shown that not only is the jeopardy rarely increased, but also the position often is liquidated at a more favorable level as the market has a tendency to "pull-back" once a chart point has been hit.

The spread trader then examines the June/October cattle spread on a regular basis beginning in December and hopes to establish a position not later than March 15, preferably at an October premium. A more aggressive position would be considered when October is at 200 points or more premium. The first profit objective would be in the area of 220 points June premium, and the time frame for profit-taking would be between April 15 and the first notice day. While these guidelines are far from absolute, they have provided ample profit opportunities in years past.

Short October/Long December Cattle

The short October/long December cattle spread follows similar but less consistent patterns. October usually reaches its high premium against December in the April–May time frame. The spread is best initiated at an October premium of 50 or more points. October premiums in excess of 200 points warrant an aggressive posture. Profit objectives are for December to trade at a 100-or-more-point premium to October; December premiums in excess of 200 points occurred in five of the past seven years. The time frame for profit taking is the last week of September as the October contract approaches first notice day.

Long February/Short April Cattle

The long February/short April cattle spread is less seasonally consistent than the previous two spreads. The historical price relationship is of the greatest importance as the spread has the greatest reliability when initiated at a 150-point-or-more premium for April. Profit objectives of at least a 100-point premium for February are appropriate. This spread has often behaved treacherously—dropping to a more-than-400-point premium for April in 1974 and 1980 late in the life of the spread. Therefore, traders should watch the technical pattern very closely and follow the discipline of their stops.

The other cattle relationships are certainly worthy of trading and will tend to fall within the patterns described above. There are also many shorter term trades available to the cattle spreader as the cattle spreads can be very volatile over short time periods. Those trades must be monitored on a daily (sometimes hourly) basis and are not appropriate for most speculative traders.

Feeder Cattle Interdelivery Spreads

The feeder cattle interdelivery spreads have followed similar patterns to those of fat cattle, but due to the nature of a relatively new futures contract, have not had high liquidity until recent years. Therefore, there is insufficient data to make a strong case for independent cyclic and historical patterns within the feeder cattle deliveries.

Feeder/Fat Cattle Spreads

The more popular spreading approach to feeders is to spread them against fat cattle. The average amount of time necessary to mature a feeder steer from the feeder cattle delivery date until it is deliverable against the live cattle contract is 5½ months. The most popular feeder/fat spreads are, therefore, *long May feeder cattle/short October fat cattle, short October feeders/long February fat cattle, and long November feeders/short April fat cattle.* The support for these relationships is dependent less on feeding relationships than on seasonal cycles in the cattle market. The weakness of meats in the October–November period has already been noted as has the seasonal strength of the April–June period. The meat markets tend to influence one another, and the influence of seasonal strength and weakness tends to override fundamental considerations of the five to six month feeder/fat relationship.

The trader, therefore, looks for seasonal strength in the spring to initiate the *short October feeder/long February fat cattle* spread and looks for weakness in early winter to initiate the *long May feeder/short October fat cattle* spread. The most reliable of these relationships to date has been the long May feeder/short October Live Cattle spread.

There are two important warning signs to note in these spreads. First, the five years under examination are probably representative of the up-wave of the 10-year cattle cycle. If that is true, then the 1979 spread may have been a long term cycle top for the spread, and 1980–1983 could refute the strong pattern noted to date. Second, there is a noticeable shift to earlier lows and highs in recent years, which could be indicative of a significant change in the relationship's relative efficiency.

The historical discount and premium structure must also be examined as the period under examination shows a gain in Feeder premiums from a $10.00 discount to a premium in excess of $20.00. Traders must be skeptical of buying feeders and selling fat cattle when the premium for feeder cattle is nearly 30 percent of fat cattle value. Similarly, a discount of as much as $10.00 for feeders must be viewed as an extremely low risk opportunity and a very favorable hedge for commercial interests.

May Feeder/October Fat Cattle

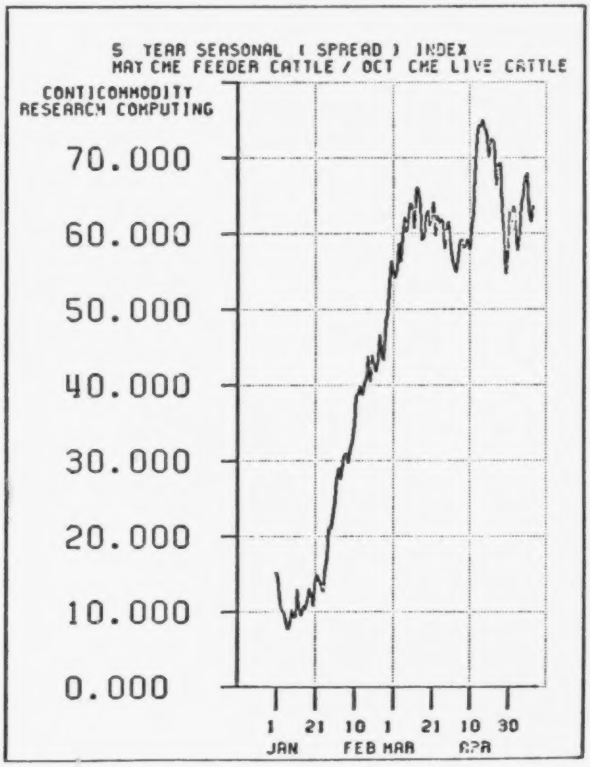
Year	Date of Low	Value	Date of High	Value	Maximum Differential
1975	1/12/75	990 Fats	4/18	550 Fats	+ 440 Points
1976	1/25/76	440 Fats	4/27	60 Feeders	+ 500 Points
1977	1/9/77	340 Fats	4/28	140 Feeders	+ 480 Points
1978	11/15/77	140 Feeders	3/15	730 Feeders	+ 590 Points
1979	10/22/78	1060 Feeders	3/3	2220 Feeders	+1160 Points

Traders should also note the disparity in contract sizes (42,000 lbs. for feeders, 40,000 lbs. for live cattle), which can favor or detract from the profit potential of the spreads, depending on overall market direction.

Cattle/Hog Spreads

Cattle/hog intercommodity spreads are among the favorites on the Chicago Mercantile Exchange. The most popular spreads are those that match up with seasonal cycles: *June/June, February/February,* and *October/October*. The most popular spread is the *June/June*.

The longer cattle cycle leads to expectations of strength in cattle relative to hogs in spring. Therefore, one might expect June cattle to gain on June hogs during the first quarter of the year, and this is indeed often the case. The overriding factors in these spreads are, however, the year-to-year technical and fundamental pictures rather than seasonal factors. The historical range for these spreads has been from a $12.00 premium for hogs in the 1976 spread to a $33.00 premium for cattle in the 1980 June/June spread. A "normal" premium before the turmoil of the '70s hit the market place would have been in the $8.00 to $10.00 cattle premium range. When one adjusts for recent inflation, however, the early 1980 premiums near $30.00 were high but not necessarily exorbitant. If the major cattle cycle did indeed top going into 1980, then the next few years should see a moderation of cattle premiums relative to hogs. Traders must watch support and resistance levels, or current charts, in order to define their risks, but these spreads should continue to afford excellent profit making opportunities to aggressive but disciplined traders.



Hog Spreads

Hogs follow similar patterns to cattle except that the yearly (seasonal) cycle is clearly two waves versus cattle's one major wave with a sporadic spring correction. Strength in hogs, as with cattle, is to be expected in late spring but early spring and early autumn marketings tend to depress the April and October deliveries of hogs with some consistency.

The two most reliable hog spreads are the *short April/long July* and the *long June/short October*. The *long February/short April* hog relationship is also reliable but less consistent. The reader may wish to examine the *short April/long July* hog spread in detail.

Note: 1) Since the nearby month is the short (sell) side of the spread, traders may hold the spread into the first few days of the delivery (spot) month without fear of deliveries. 2) 1973/74 was a period of great turmoil in the futures markets. This is evidenced by the volatility of the 1973 spread and the early high of the 1974 spread. 3) Data for 1980 were only through the middle of March as the spread had not yet matured at the time of writing.

Cyclic analysis—Though the date of the cycle high is less consistent than that for the low, it has occurred before mid-February in every year but 1973. The low has occurred within a week of April 1 in 7 of the past 10 years (1980 is incomplete).

Historical Analysis—The spread has traded at an April premium in only 3 of the past 11 years and has traded subsequent to the high at a July premium of 245 points or more in 9 of the past 11 years.

Fundamental analysis. The spread has been consistently aided by the March USDA pig crop report and the threat of deliveries on the April hog contract.

April/July Hogs

Year	Date of High	Differential	Date of Subsequent Low	Differential	Max. Diff. High to Low
1970	1/31	Even	3/15	130 July	+130 Points
1971	2/14	220 July	4/6	480 July	+260 Points
1972	1/24	110 July	4/5	315 July	+205 Points
1973	3/10	40 April	3/27	200 July	+240 Points
1974	7/30/73	160 April	2/27	750 July	+910 Points
1975	7/19/74	160 July	4/6	500 July	+340 Points
1976	10/2/75	435 April	2/5	245 July	+680 Points
1977	8/23/76	130 July	4/7	685 July	+555 Points
1978	1/25	110 July	4/6	530 July	+420 Points
1979	1/14	105 July	3/21	360 July	+255 Points
1980	9/13/79	350 July	3/3	625 July	+275 Points (to date)

Technical Analysis. The same comments apply here as for cattle. Traders must examine the charts for trend, areas of support and resistance, and historical correlation. This scrutiny should aid money management with respect to the spread on a year-to-year basis.

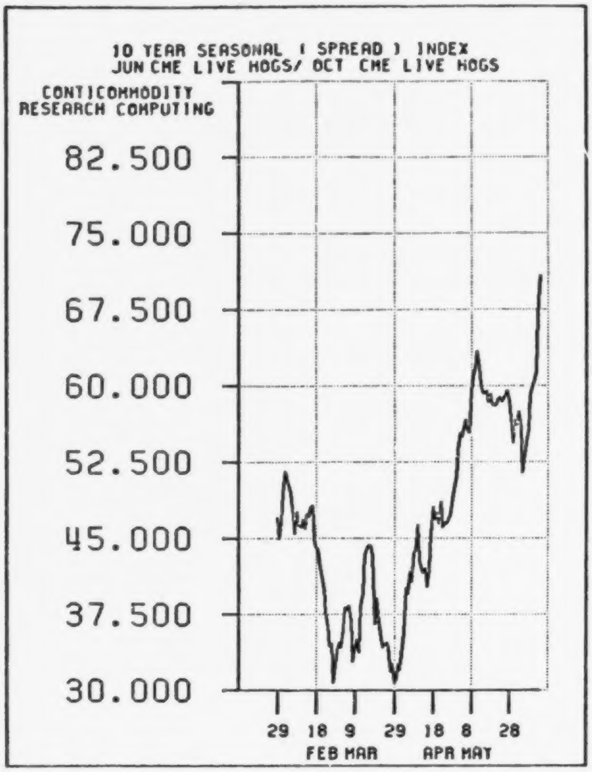
Examination of the *short April/long July hog* spread indicates that traders should look to initiate the spread before mid-February at a 150-point-or-lower premium for July. An aggressive posture is warranted when April has a premium. Profit objectives should be a July premium of at least 250 points, with premiums of 500 or more quite possible. Objectives should be attained within one week of April 1.

The *long June/short October hog* spread has similar reliability (note that the June/August spread has similar patterns but June/October has greater profit potential). The spread generates a cyclic low between mid-February and the end of March. The high for the spread is usually generated by mid-May. The spread is most reliable when placed at a 50-point-or-lower premium for June, with an aggressive trade warranted when the spread has an October premium. Profit objectives are in excess of a 200-point premium for June, with very bullish years reaching premiums in excess of 500 points for June. Fundamental support for the spread is based on the high demand/lower marketing aspects of the June contract in contrast with anticipated fall marketings weighing on the October contract.

Other hog spreads are valid within the same parameters as those discussed for cattle. For example, one can expect the price of October hog futures to lose ground relative to December hog futures as the fall marketing period approaches, and February hogs to gain on April hogs into the new year. The major difference in the hog spreads is a tendency towards somewhat less volatility than the cattle spreads. This decreases opportunities in hogs for shorter term spread trades but tends to support the longer term trades by giving the holding period a higher comfort index.

Pork Belly/Hog Spreads

Frozen pork bellies versus hogs was a favorite vehicle for most traders during the first decade of simultaneous hog and belly futures trading. There was a "rule of thumb" at that time that pork belly prices should be twice the value of hogs less seven dollars. Traders would, therefore, buy bellies and sell hogs (matching delivery months—February, July and August) when that relationship was "too low" and vice versa. The years since 1973 have changed these relationships considerably. The increased efficiency of the marketplace—including the ever-increasing ability to communicate changes in price and supply/demand data—have contributed to



make pork belly prices much more subject to their own supply/demand fundamentals and less directly sensitive to hog prices. The profit margin in hogs is after all the sum of all products including hams, loins, and bacon. When the overall "cut out" is profitable, any one of the products can suffer. Also, pork bellies have received a measure of adverse publicity in recent years relative to bacon's poor economy as a meat cut (weigh bacon after cooking and calculate the cost/pound) and a negative press concerning the preservative used in its preparation.

Thus, there is little true correlation between bellies and hogs. However, there is a seasonal pattern which is worthy of note. February bellies have a general tendency to lose to February hogs from September until the end of the year, and there is a strong tendency for July bellies to lose to July hogs from mid-April until the first notice day for the July contract.

Historically, there is support for bellies versus hogs at "even money" (both the same price) but little consistency to a top or maximum premium for bellies. This intercommodity spread has inherent high risk but can also be a generator of significant profits. Traders should follow seasonal tendencies closely—*buying February hogs/selling February bellies* in *August or September* and *buying July hogs/selling July bellies in mid-spring*, particularly when the belly premiums are high. Exiting from these spreads should be determined technically in the given year though, in general, one should look to exit the February spread by mid-January and the July spread by the end of June.

Pork Belly Spreads

The belly market is the only carrying charge market in the meats futures complex. Bellies are a storable commodity (within the calendar year only—note that bellies in storage before November 1 cannot be delivered against the following year's futures contracts), and traders should be aware of the carrying charge relationships inherent in the market.

Carrying charges are made up of three cost components: the costs of storage, insurance, and money (as represented by the value of the commodity and current interest rates). Bellies are frozen and therefore subject to significant storage costs, particularly in light of the rising cost of energy in recent years. These storage costs amounted to approximately \$200/month in the spring of 1980 or 55 points/month for each 38,000-pound pork belly contract. The cost of money has become a very significant factor due to the recent inflationary push on interest rates. Bellies at 45 dollars/cwt. and interest at 15 percent would yield a money cost of \$6.75/year or another 55 points/month. This would yield a full carrying charge of 110 points/month. When frozen pork bellies are higher in price and/or interest rates are the same or higher, the carrying charge would expand and vice versa. When the belly market reflects discounts in the nearby months relative to the distant deliveries, the market is said to be normal or a "carrying charge" market.

When these discounts are 75 percent or more of the calculated full carrying charge, the spread trader has the opportunity for a "limited risk" spread. Such a spread involves buying the nearby and selling a distant belly delivery (within the same calender year). The risk in such a trade is defined by the full carrying charge. If the trader were to take delivery of his nearby long position, hold it for the necessary time period, and deliver it against his short position, maximum cost would be the "full carrying charge" for the period in question.

Pork bellies have "strong" and "weak" months, as do the other meats, with February and July being characteristically strong and March being the weakest. *The lowest risk trade in bellies is buying February and selling March bellies when March is at a premium to February of at least 50 percent of the calculated full carrying charges.* But any of the deliveries can be in a "limited risk" position. The end of January 1980 was such an opportunity. For a period of only 3 days (in anticipation of the first notice day for February bellies) the March/July spread traded near a 400-point March discount and the May/July at a 200 point May discount. These discounts represented 90 percent of full carrying charges (at then current prices and interest rates) and were a rare opportunity. The March/July spread gained 140 points during February, while the May/July spread gained 100 points by mid-March.

The belly trader should look for such opportunities in limited-risk spreads regularly—particularly early in the life of the contract, because the market's efficiency tends to increase as the market becomes current, and "limited risk" opportunities are rare and of short duration. Aside from limited-risk opportunities, the belly spreads tend to follow the patterns in hogs but with somewhat less volatility (especially in recent years).

One belly spread of particular note is the *"old crop/new crop" spread between July or August of one year and the February contract of the following year.* Since contract definitions prevent the delivery of old crop bellies against the new crop futures, there is actually no direct relationship between the two crop years. Therefore, these spreads, though only 6 months apart, are extremely volatile and subject to very wide swings. The August/February relationship has had a range since 1972, of between \$20.00 premium for August (1975) and \$16.00 premium for February (1974, 1979 and 1980 to date). There is no consistent pattern favoring August or February, and each year must be treated as a separate entity. The four-year hog cycle may be of some assistance to analysis of this spread (at least to the extent that belly supply is affected). It might also indicate that the 1980 spread should favor the August from the record discount level of \$16.00 and that the 1981 spread could also favor the nearby on the basis of the larger cycle. The trader must remember, however, that the old crop/new crop belly spreads are extremely high-risk positions and must be examined closely on a day-to-day basis purely from a money-management standpoint.

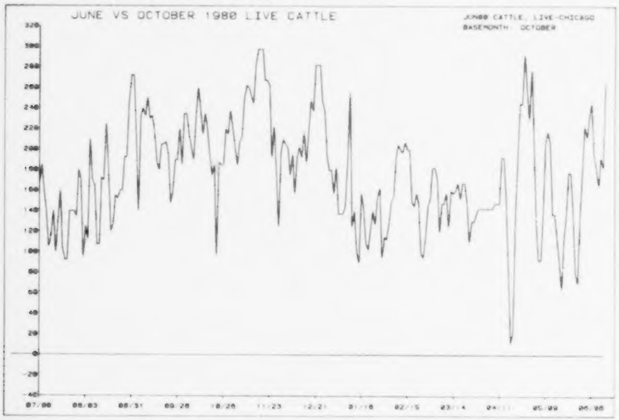
Other Relationships in the Meats

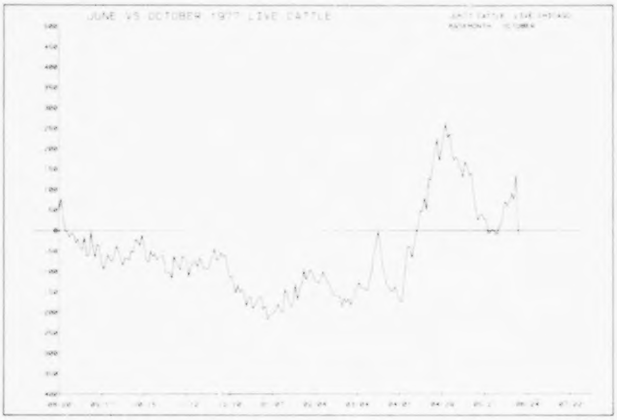
Many other relationships in the meats are of interest to both commercial and speculative traders. Basis spreads, which measure the difference between cash and the nearest futures contract, are very important to commercial meat interests as are the spreads between livestock and feed from which the so-called feeding ratios are derived. These spreads help determine the profitability or lack of profit for the livestock raiser.

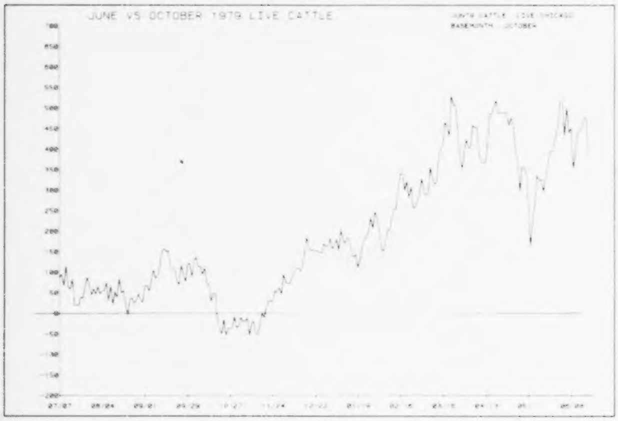
The new Chicago broiler contracts hold promise for meat traders both on their own merits and as measures versus competing meats. Development of imported and domestic boneless beef contracts also hold promise for the future. The growth in new meat futures seems likely to continue to the advantage of all market participants.

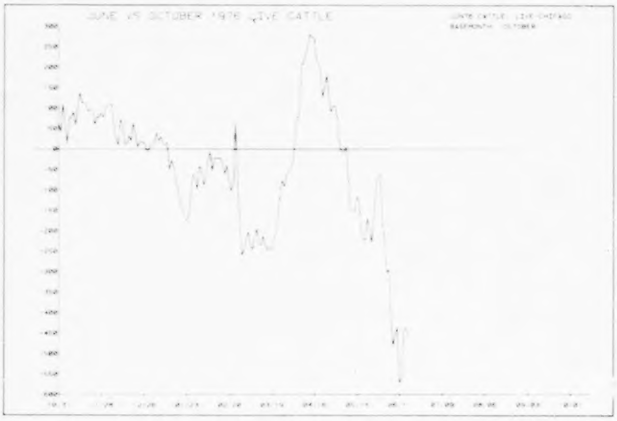
The meat markets afford conservative opportunities in futures for both commercial and speculative traders. There are meat spread relationships appropriate to all types of traders, from the very conservative "limited risk" spreads in pork bellies to the aggressive hog versus pork bellies and cattle versus hog intercommodity spreads. The future holds further promise for development of not only the existing markets but also many of the newer markets and the relationships among them.

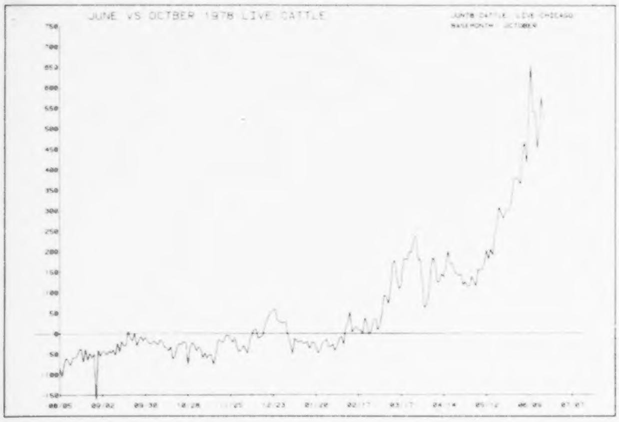
Traders must continue to approach futures markets analytically and with firm money management disciplines. Such an approach has the potential to generate and protect profit, and the meat markets seem particularly appropriate to the development of these concepts.

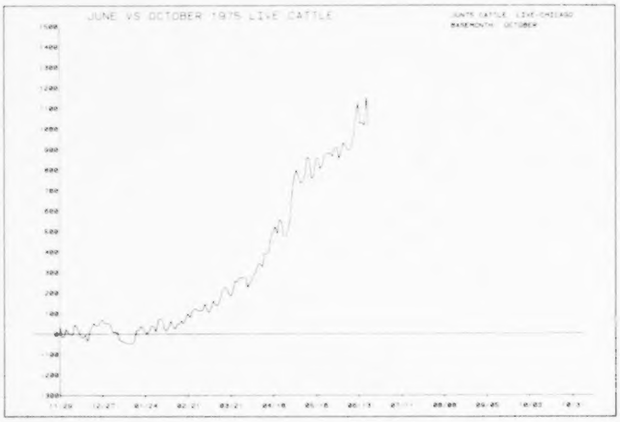












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THE ROLE OF CYCLES IN COMMODITY PRICE FORECASTING

BY WALTER J. BRESSERT

Everything in nature moves in cycles . . . the cycles of the seasons . . . night and day . . . the tides which occur with predictable regularity as does the full moon. Each year geese migrate . . . animals hibernate . . . salmon swim upstream to spawn. And every seven years lemmings run to the ocean. Some cycles are such an intimate part of daily life that it may be hard to think of them as cycles. The cycle of sleep is necessary every 16 hours or so. Women experience the menstrual cycle, and men experience a monthly cycle of highs and lows. The cycle of a heartbeat is experienced by all of us, regu-

Exhibit 1

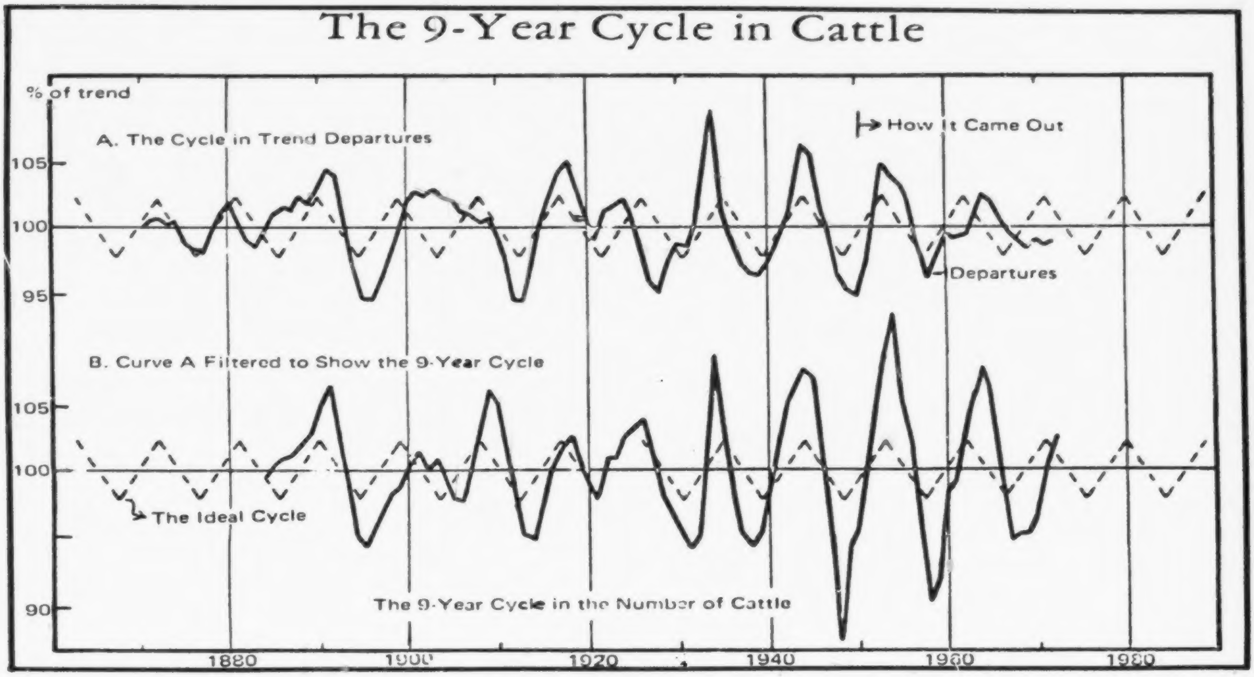


Exhibit 2

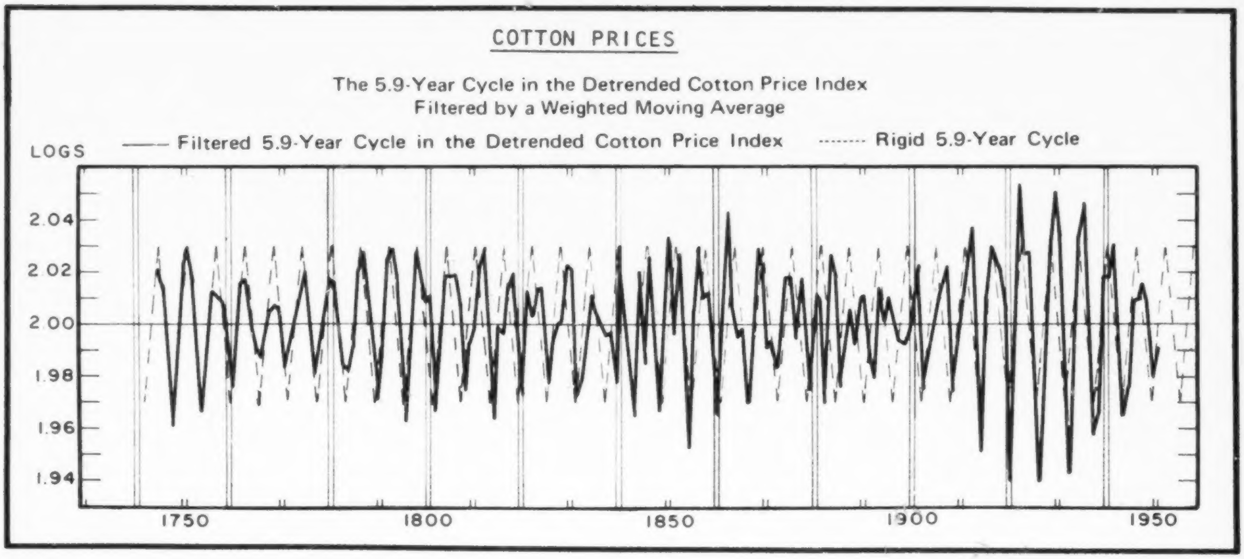
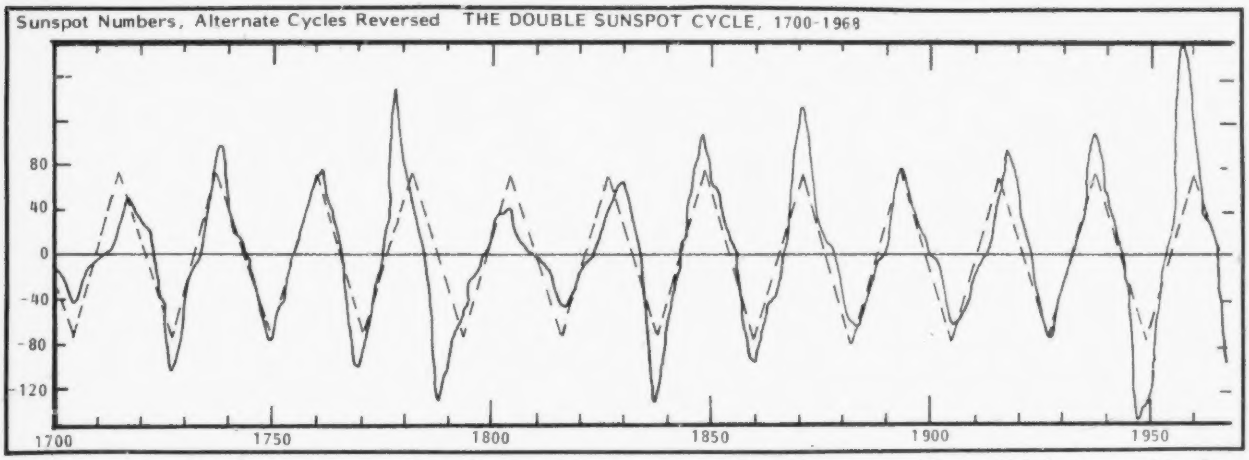
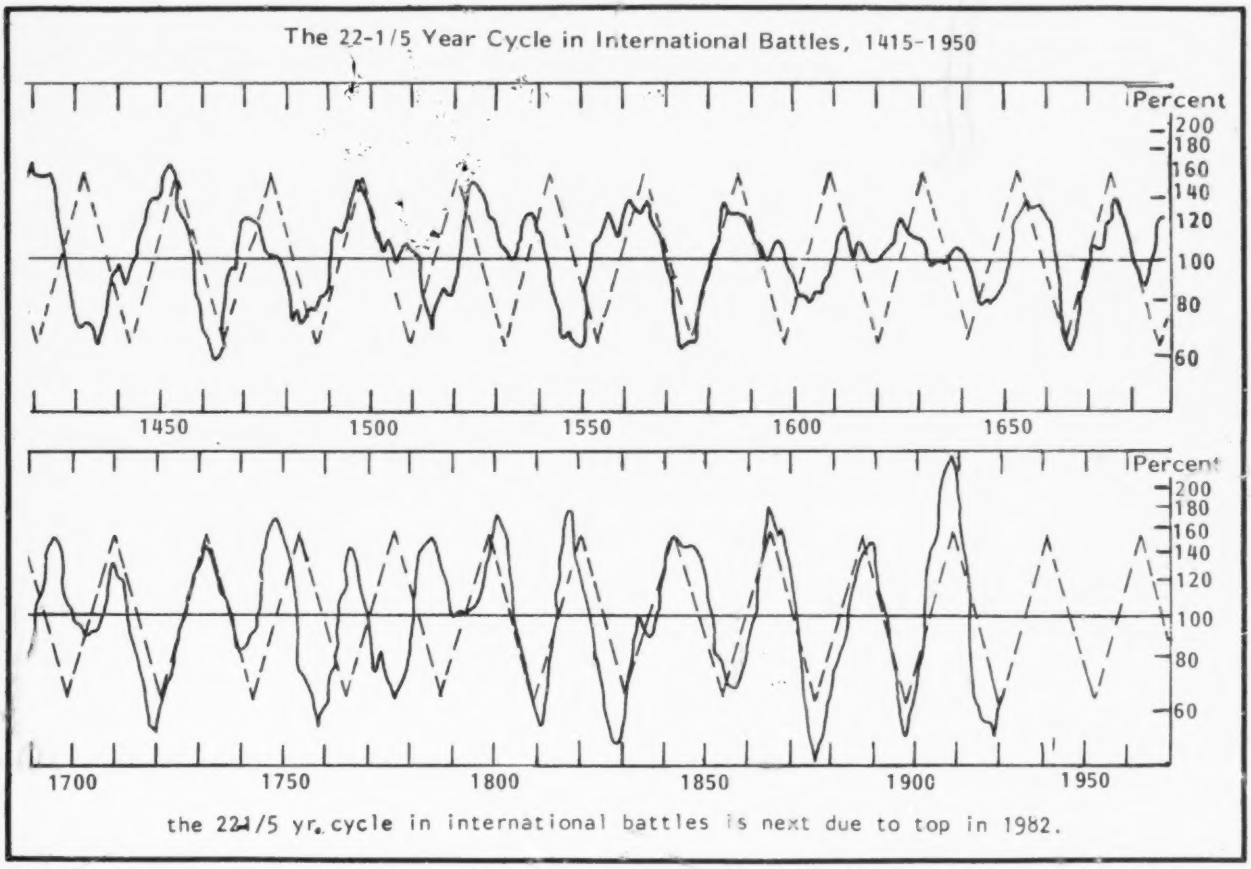


Exhibit 3


Sunspot Numbers, Alternate Cycles Reversed THE DOUBLE SUNSPOT CYCLE, 1700-1968

22⅕ yr. cycle of incidence of sunspots. Drought often follows two years after the sunspot minima which last ocurred in the early 1970s, and is due again in the mid 1990s.

Exhibit 4


The 22-1/5 Year Cycle in International Battles, 1415-1950

the 22-1/5 yr. cycle in international battles is next due to top in 1982.

The foregoing charts are courtesy of the *Foundation for the Study of Cycles*, Pittsburgh, PA. (In each chart, the dotted line is the "ideal" cycle, and the solid line is the actual detrended data.)

lar as clockwork until disturbed by exercise or a margin call.

The *Foundation for the Study of Cycles* has been isolating and cataloging cycles since the 1930s, and to date has recorded over three thousand cycles, including cycles in weather, war, sunspots, drought, marriage, lynx numbers, anchovies, inflation, bank failures, real estate, and stock prices, to name a few. Of more immediate interest to commodity traders are cycles in silver, copper, cotton, corn, cattle, and other agricultural and industrial products.

Dominant Cycles

Knowing that cycles affect commodity prices is interesting, but of little use unless the cycles of a commodity can be analyzed to give a relatively accurate indication of future price activity. To analyze a particular commodity, it is necessary to isolate the dominant cycles affecting prices. Once these dominant cycles have been isolated, future price expectations can be established by analyzing and then combining the effects of each dominant cycle. When the dominant long term cycles have been determined, providing an overview of expected price movement, then weekly and daily short term cycles can be used to determine when to enter and exit the markets, as well as to confirm tops and bottoms of the longer term cycles.

Cyclic analysis of the futures markets assumes that, at any point in time, *the then current fundamental information available is relative only to the current price structure, and that fundamental events will occur within a cycle to move prices in the direction of the cycle.* Such an event could be a government report that greatly changes the supply picture; foreign purchases; crop failure, or freeze, in any part of the world; wars, or the prospects of war which can change both the demand and supply picture; unexpected political action such as embargoes, tariffs, or price controls which can revamp either supply or demand. These and hundreds of other factors can alter the prospects for the future. Cyclic analysis does not pretend to forecast what will happen in the future, just that some event will occur to move prices in the direction of the cycle.

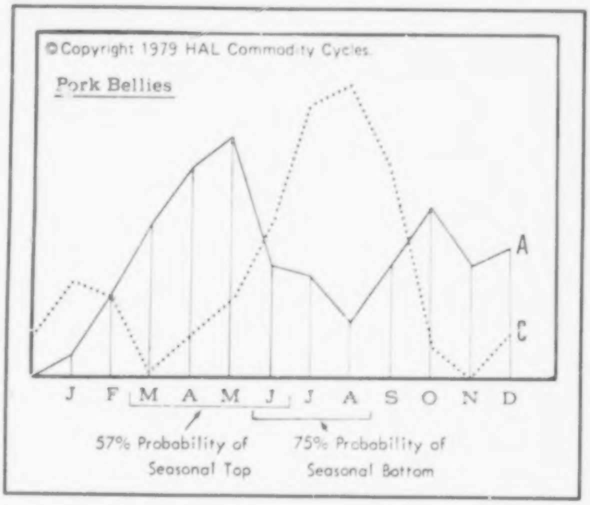
Price activity of all markets is cyclical, but some commodities are more cyclical than others. Markets are affected by two types of cycles, dominant and non-dominant. A dominant cycle is one that visibly and consistently affects price activity; a non-dominant cycle is one that seems to move in and out of price activity, not always being visible nor consistent. It is the dominant cycles that are used to analyze markets and to establish time and price expectations for the future.

Seasonal Cycle

A very dominant cycle in many markets is the *seasonal cycle*, which is one of the few cycles affecting the markets of which we know the cause. The glut brought about by harvest normally results in the lowest prices of the year, and fear of a shortfall or crop failure often result in the highest prices of the year. While commodity traders have been aware of the seasonality of cash prices for years, there is often a difference between the futures markets, which anticipate prices, and cash markets. Pork bellies is an excellent example.

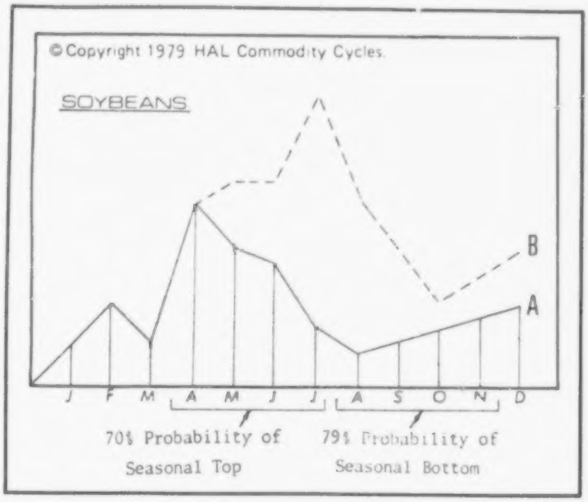
In this seasonal chart, the popular cash seasonal is represented by "C"; "A" is the *seasonal cycle* of the futures markets. The cash seasonal calls for a top in August, and a bottom in November, but notice that the futures market is different. At times it moves in the opposite direction, topping in May and bottoming in August. *In reality there is no one month that is consistently the seasonal high or low, but there are time periods when the seasonal cycle has topped or bottomed more frequently than other months. These time periods, or timing bands, are labeled on the seasonal chart.* Of the seasonal highs, 57 percent, or six years out of ten, occur during the four-month period from March to June. The bottoming period is more exact, with 75 percent, or three years out of four, bottoming between June and August.

Exhibit 5



Another aspect of seasonality is that there is not simply one seasonal pattern. As seen in the soybean seasonal chart, soybeans tend to follow one of two seasonal patterns; Pattern A with spring high fol-

Exhibit 6



lowed by a seasonal low in the summer or Pattern B with a summer high followed by a seasonal low in the fall. These two patterns account for the seasonal highs and lows in three out of four years, with 70 percent of the seasonal tops occurring in the *timing band* period between April and June, and 79 percent of the seasonal lows occurring between August and November.

A drawback of all published seasonal studies using average monthly prices to determine a seasonal tendency is that it is often many weeks or even months before the seasonal high or low can be confirmed with any degree of accuracy. On the other hand, an advantage of using average monthly cash prices is that price data going back twenty, forty and even fifty years are relatively easy to obtain.

However, since large sums of money are committed to the futures market and since cash and the nearby futures prices can, and do, move in opposite directions, *seasonal cycles* in futures markets must be analyzed using the nearby futures contract. Each market is analyzed on a weekly continuation chart, using the nearby futures option until the last day of the month preceding delivery. For example, in the soybean seasonal, the January contract would be used from November 1 through December 31; the March contract from January 1 to February 28. To monitor aberrations that could be caused by contract changeover, the next closest contract also was analyzed. For example, during December, the March contract was charted with the January contract; during January, price activity of the March contract was compared to the March contract during December.

In addition to the *seasonal cycles*, there are well-documented cycles that are even longer, often determining the direction of a market for two or more years. For example, the well-known *9- to 11-year cycle* in cattle prices has been traced back to the mid-1800s by several researchers, including the *Foundation for the Study of Cycles*. Incidentally, this cycle last bottomed in 1974/75, and was due to top in 1979/80, with the next bottom due 1983–1985.

Exhibit 7

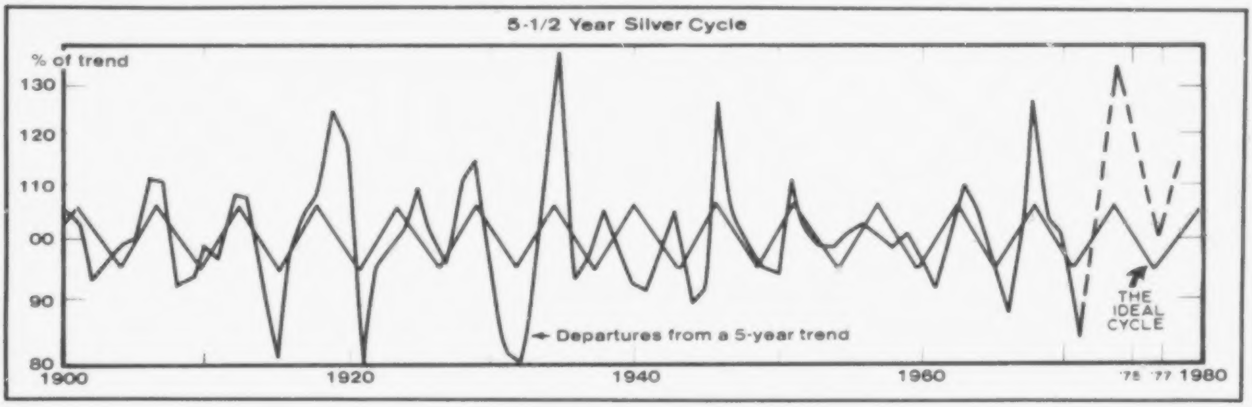
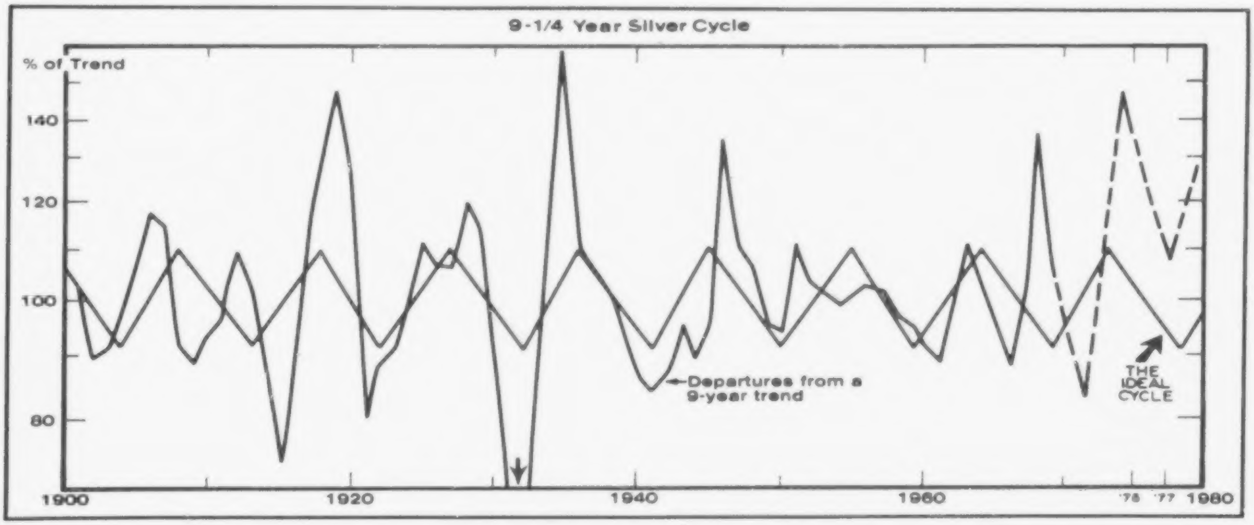


Exhibit 8



The foregoing charts are courtesy of the *Foundation for the Study of Cycles*, Pittsburgh, PA.

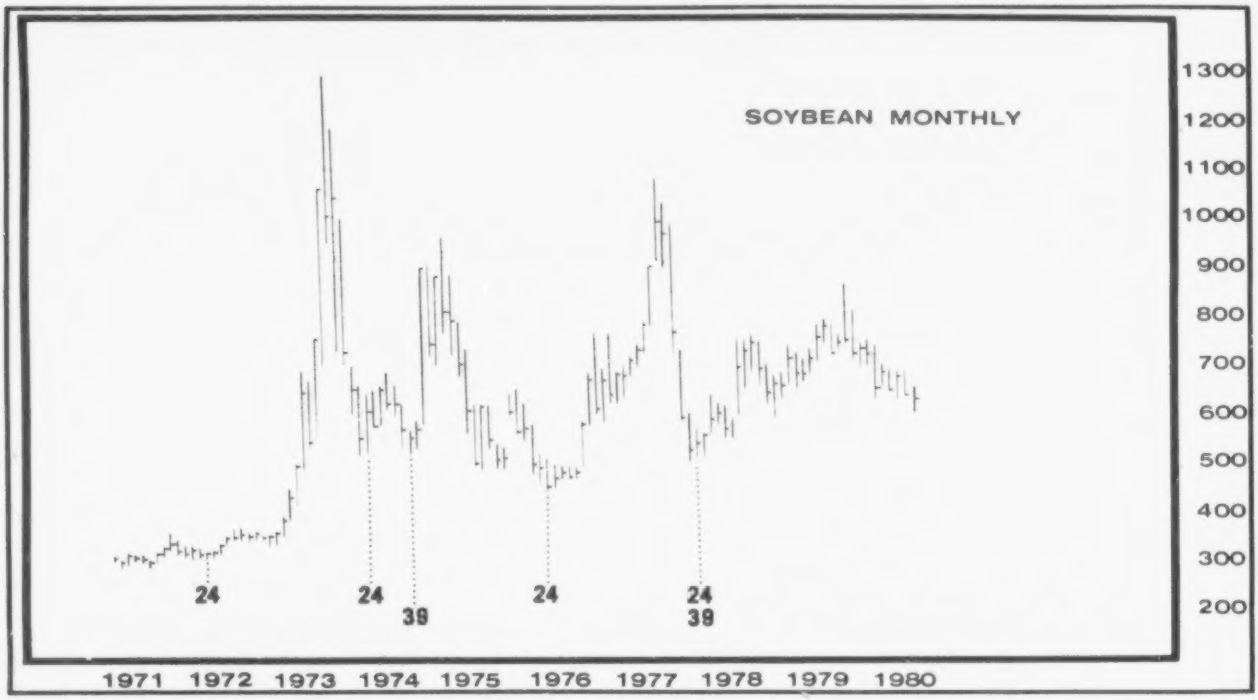
Silver

Silver has two dominant cycles that have been traced back to the mid-1800s by the *Foundation for the Study of Cycles*. The recent explosion to new highs in the silver market is not unprecedented; it happened in 1968 and again in 1974, though on a smaller scale. It may be a coincidence, but both of these years were also tops of a *5½-year cycle* (5.58 years to be exact). The last top was in February 1974, and while large cycles seldom top exactly on schedule, they frequently top at 10 percent plus or minus the length of the ideal cycle. With the 10 percent leeway, a top was likely to occur no later than the end of March 1980. This picture is complicated by another cycle that averages 9¼ years in length that topped with the *5½-year cycle* in 1974 and is not due to top again until the early 1980s. We will delve deeper into the silver market and its shorter term cycles later.

Soybeans

Soybeans have two powerful cycles longer than the *seasonal cycle*: the *24-month cycle* and the *39-month cycle*. Prior to 1973, the *39-month cycle* was the dominant cycle, but since then, the *24-month cycle* has shown dominancy. The highs and lows of these cycles are shown on the monthly chart. Both of these cycles are due to bottom in 1980, indicating that a major bull market should be in full swing by the summer of 1981.

Exhibit 9



Detrending—The Process of Isolating Cycles

A combination of longer term cycles and the *seasonal cycle* determine the trend of the markets, but to trade a market, it is necessary to analyze the shorter term cycles which often enable a cyclic bottom to be confirmed within a day or week. Smaller cycles are often hard to see, because each commodity market is composed of many cycles. A process called detrending is used to eliminate the effects of all cycles longer than the detrended cycle, which enables each individual cycle to be accurately measured.

There are several methods of detrending. The easiest method is to run a moving average the same length as the cycle through prices, but instead of plotting the moving average at the current date, it is centered, or plotted in the middle of the time period used to compute the moving average. In Exhibit 10, *figure 1*, the last 20 days of prices have been used to compute a 20-day moving average, and the moving average computed on day 20 is plotted on day 10. The moving average computed on day 21 will be plotted on day 11, and so on, through the life of the contract. Once the moving average has been plotted, the distance of the daily range can be measured and plotted around a zero line directly below prices for easy comparison, as shown in *figure* 2. The distance of prices above and below the moving average (the curved AB line) is measured and plotted around the horizontal AB line, eliminating the effects of all larger cycles (trend). This method of detrending is shown in *figure* 3, the chart of March '75 corn. Notice how much more clearly the cycles stand out when detrended.

The theory of cyclic analysis is of little value in the fast-moving commodities markets, unless each individual cycle can be readily seen and measured, to check its effect on price activity, and then be used to establish price and time expectations for the future. If the cycle has worked well in the past, over a period of at least 20 repetitions, it can be expected to work well in the future. Detrending each of the futures markets has resulted in the isolation of two cycles smaller than the *seasonal cycle* that are consistent in most commodities. The largest of the two cycles is a weekly cycle referred to as the *primary cycle*. The *primary cycle* in wheat averages 26 weeks; corn, 20 weeks; cattle, 8 weeks; silver, 19 weeks; and hogs, 11 weeks, to mention just a few.

Exhibit 10
Detrended Example

Fig. 1

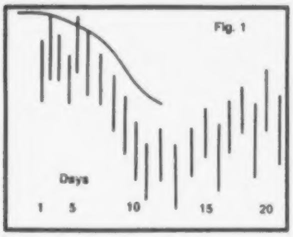


Fig. 2

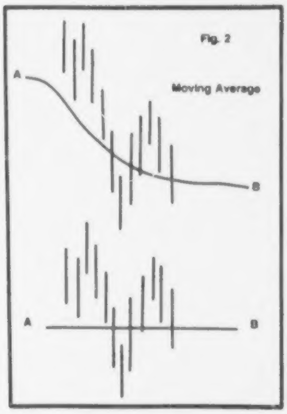
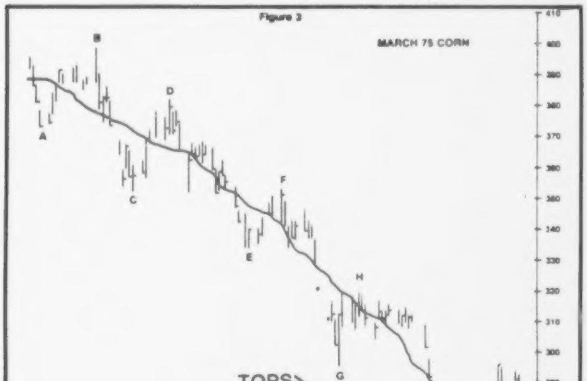


Fig. 3



The second cycle is a shorter term cycle called the *trading cycle*, because it is the cycle used to trade—to enter and exit—the markets. This cycle is measured in calendar days because whatever causes cycles does not stop functioning on weekends and holidays. Corn still grows over the weekend, cattle still feed, and money still changes hands for the cash product. The *trading cycle* in soybeans is 28 days; cattle, 21 days; silver, 35 days; and gold, 21 days, all measured in calendar days. The *primary cycle* and the *trading cycle* have been calculated for most markets.

Timing Bands

Like most economic data, cycles will at times contract or extend, and at other times will even skip a beat. To account for this variance, it is useful to use the middle 70 percent of the total samples of data.

These Bands are called 70 percent CYCLIC TIMING BANDS.

15% / 70% / 15%

Seven times out of ten, a cyclic component will top, or bottom, within a 70 percent *cyclic timing band.*

This produces a timing period, or *timing band* within which 70 percent of all cycles have bottomed in the past, and within which 70 percent of the cycles should bottom in the future. My *timing band* study was completed for most markets in the early 1970s, and with few exceptions, these same 70 percent *timing bands* are valid today. Using the detrending method described earlier, *timing bands* can be constructed for any commodity or stock.

Price Objectives

Once calculated, these *timing bands* are used to anticipate tops and bottoms, and to identify which cycle is making a top or bottom. Identification of the cycle is important to establish not only a time expectation for the next top or bottom, but also a price objective. The accuracy of all technical tools is greatly improved when used with confirmed identifiable cycles. Two excellent tools for determining price objectives are the "*mid-cycle pause*" and the "*60–40 percent retracement.*"

Mid-Cycle Pause . . . This tool is similar to the *measured move* explained in William Jiler's book, "*How Charts Can Help You In The Stock Market.*" The *measured move* works because of the cycle, and if the cycle is correctly identified, an accurate price objective as well as a time objective can be established before the move begins. This tool is constructed as shown on page 46.

Standard Chart Formation

Standard chart formations are often the interaction of two or more cycles. The familiar head and shoulder formation is a combination of two and sometimes three individual cycles. In the November '75 soybean chart (Exhibit 15, page 48), the *seasonal cycle* is bottoming over a three-month period, forming an inverted Head and Shoulders. The left shoulder, head, and right shoulder are all *trading cycle* lows, with the neckline running off the first and second *trading cycle* tops. Using cycles, the low of the right shoulder can often be bought well before penetration of the neckline, as in this soybean example.

Double tops and bottoms also form as two or more cycles interact. In this example of 1977 pork bellies (Exhibit 16), there are two *trading cycles* bottoming within a larger cycle.

Cyclic analysis for any one commodity is not as simple as it may sound. After determining the dominant and non-dominant cycles, the most recent highs and lows must be pinpointed, and a time and price expectation must be established for each cycle.

The variations of cyclical combinations could fill a book, but to give you an idea of how these cycles top and bottom, the longer term cycles in silver and soybeans are shown on pages 48 and 51 and Exhibits 19 and 20.

Constructing a Mid-Cycle Pause Price Objective *in a Bull Market*

1. Measure the *diagonal* distance from the top of cycle B to the low of cycle C.
2. Mark the mid-point of the diagonal line "BC" with an "X."
3. Measure the *vertical* distance from the mid-point (X) to the price low (A) of the preceding cycle. This distance is "$X-X^1$."
4. Measure the same distance ($X-X^1$) above "X" to "X^2." *The mid-cycle pause price objective* is "X^2."
5. Measure 10 percent of the total distance X^1-X^2 (3.6 grids, rounded off to 3 grids), and plot this above and below X^2. This is the *range* within which the *next* cycle of the same length that you are measuring should top.

Constructing a Mid-Cycle Pause Price Objective *in a Bear Market*

1. Measure the diagonal distance from the price low (A) to the cyclic top (B).
2. Mark the mid-point of the diagonal line (AB) with an "X."
3. Measure the vertical distance from the mid-point (X) to the price high (B^1) of the preceding cycle. This distance is "$X-X^1$."
4. Measure the same distance ($X-X^1$) below "X" to "X^2." The *mid-cycle pause price objective* is "X^2."
5. Measure 10 percent of the total distance X^1-X^2, and plot this distance above and below X^2. This is the range within which the next cycle of the same length that you are measuring should bottom.

Exhibit 11

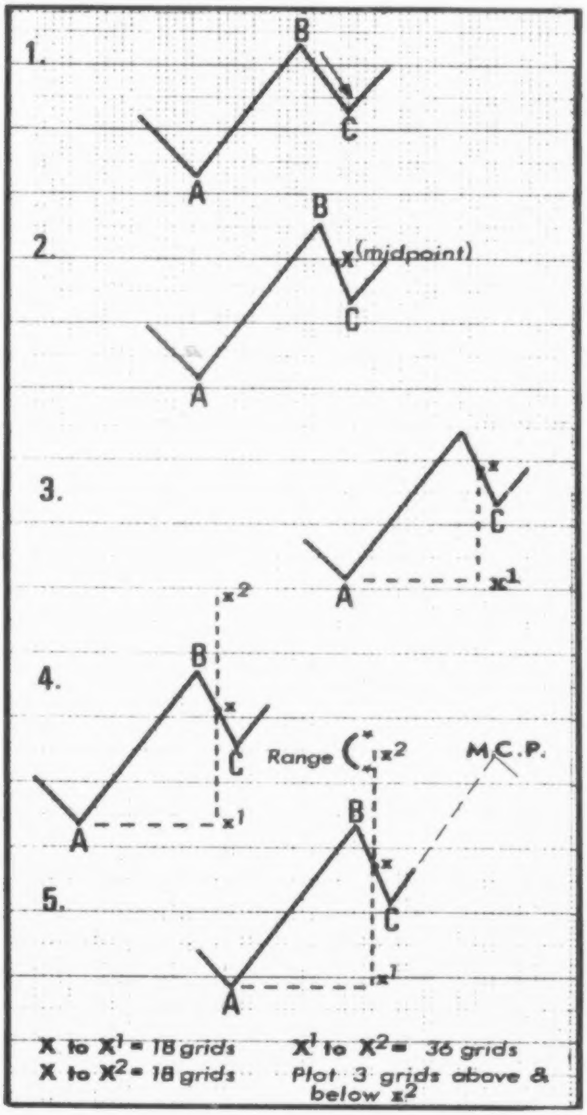
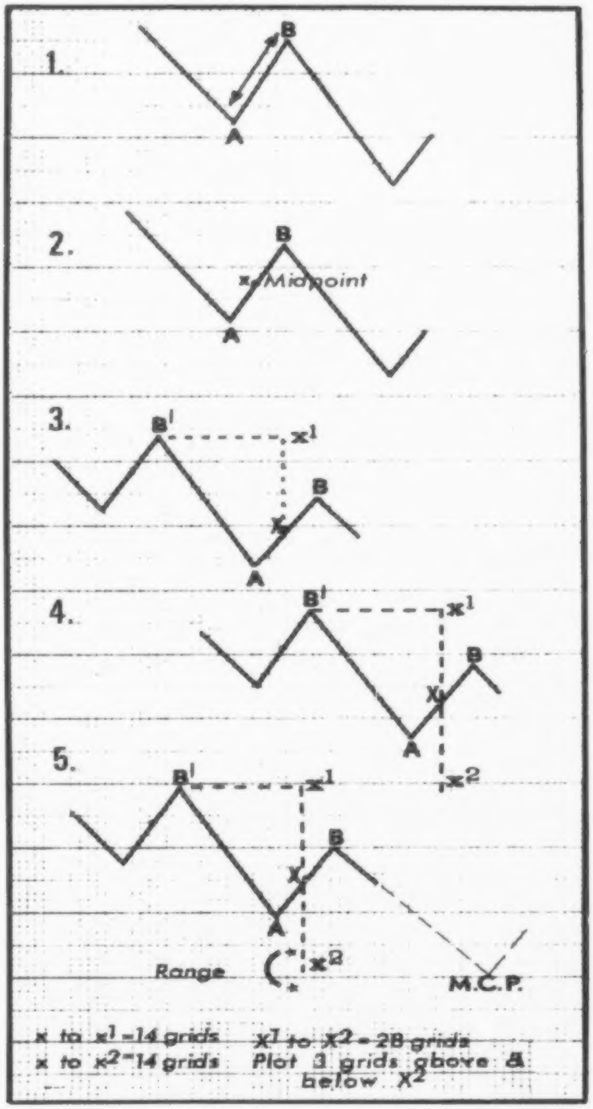


Exhibit 12

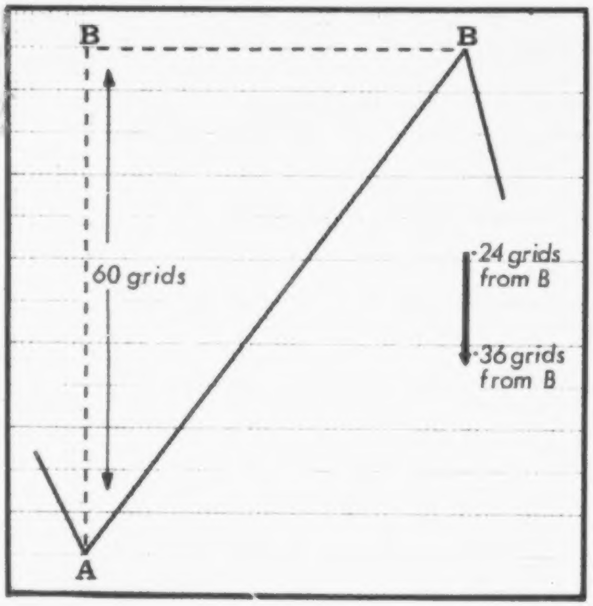


60–40 Percent Retracement . . . One of the most consistent tools for price objectives is the *60–40 percent retracement*, which is used in a bull market to determine the price level at which a market can be bought as a cycle bottoms and in a bear market to determine the price level at which a market can be sold as a cycle tops. Better than nine out of ten *trading cycles* will retrace at least 40 percent. The 60 percent retracement is often the extreme range of a price retracement. The 60–40 *percent retracement* is constructed as follows:

60–40% Retracement in a Bull Market

Exhibit 13

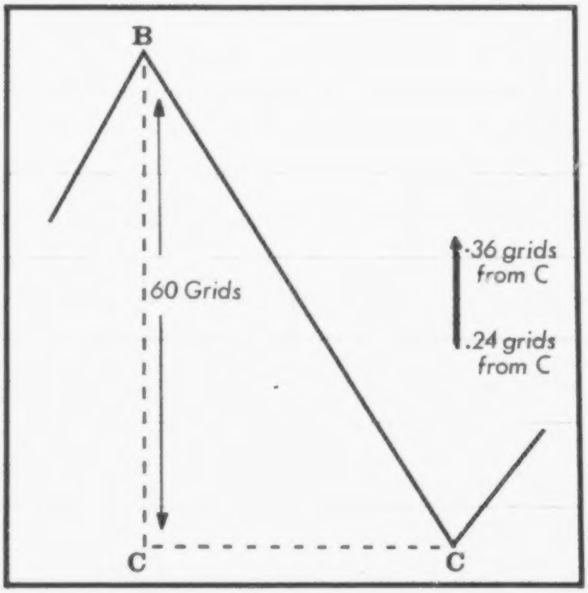
1. Measure the vertical distance (in grids) from the cyclic trough A to the crest B.
2. Multiply the number of grids by .40 and .60 (60 × .4 = 24 grids; 60 × .6 = 36 grids).
3. Directly below the price high (B), plot the .40 and .60 numbers measuring from the high.
4. Connect the two dots, and place an arrowhead pointing down at the bottom of the line.
5. This is the price range within which the cycle should bottom. Timing bands will provide the time period for prices to bottom while in the price range.



60–40% Retracement in a Bear Market

Exhibit 14

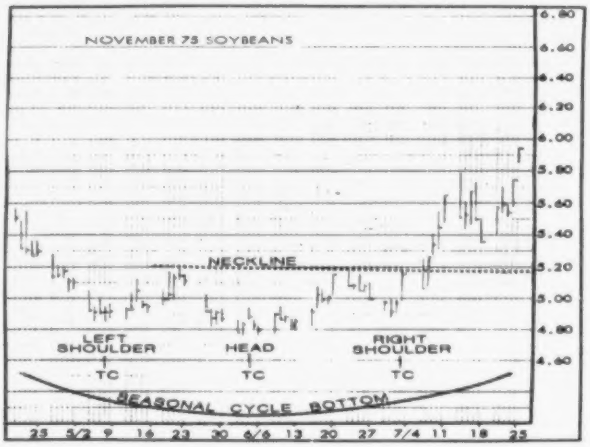
1. Measure the vertical distance (in grids) from the cyclic crest B to the trough C.
2. Multiply the number of grids by .40 and .60.
3. Directly above the price low (C), plot the .40 and .60 numbers measuring from the low.
4. Connect the two dots, and place an arrowhead point up at the top of the line.
5. This is the price range within which the cycle should top. Timing bands will provide the time period for prices to top while in the price range.



Standard Chart Formations

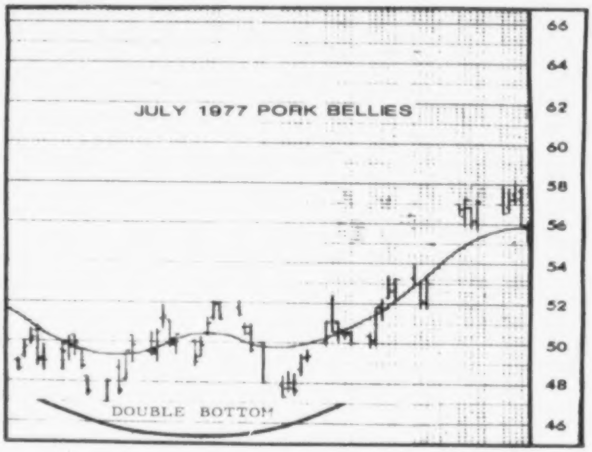
Head & Shoulders

Exhibit 15



Double Bottom

Exhibit 16



Silver

The dominant cycles in the silver market:

9¼-Year	41-Week
5½-Year	19-Week
73-Week	9.5-Week
32-Week	seasonal tendency

A) The lows of these cycles from 1974 are shown on the weekly silver chart (see Exhibit 19). The 9¼- and 5½-year cycles illustrated earlier topped in 1974; the *5½-year cycle* bottomed in 1977; the *9¼-year cycle* is extending, and due to bottom in 1980. The *5½-year cycle* is the more powerful of the two cycles, and once it bottomed, prices started up. The next low of the *5½-year cycle* is due between 1983 and 1985.

The next-longest cycle affecting the silver market is a 73-week cycle, that has within it two smaller cycles, of 32 weeks and 41 weeks. These two smaller cycles interact within the *73-week cycle* as shown in Exhibit 17 *figure 1*. Traced back to 1967, this cycle is normally not as powerful as the smaller *19-week cycle*, but on occasion, has a distorting effect on prices as in April 1975 and in January 1976.

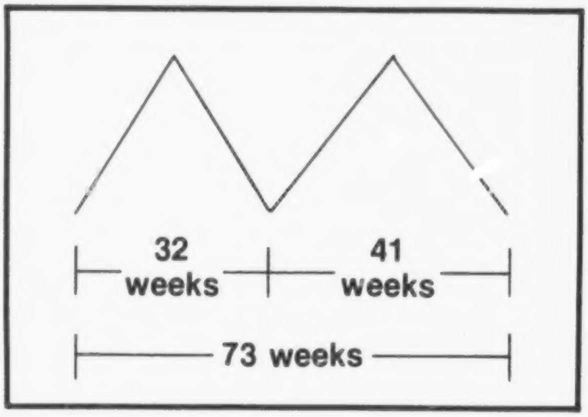
B) The last 73-week low was in January 1979. The *32-week cycle* bottomed in August 1979, and the bottoms of the 73-week and 41-week cycles are due in June 1980, perhaps bottoming at the same time as the *9¼-year cycle*. This low coincides with the seasonal tendency for silver to make a first-quarter high and a summer low.

The most consistent cycle is the *19-week primary cycle*, which has within it a smaller cycle one-half its length averaging 9.5 weeks from low to low. These two cycles combine to form a component cycle as illustrated in *figure* 2. Notice on the silver chart that there is normally a 9.5-week low between the lows of the *19-week cycle* (indicated by the dot).

C) This combination of cycles indicates that a major low is due about June 1980, as the 73-week, 41-week and 9.5-week cycles bottom. And another bull market could be about to begin. With the *5½-year cycle* moving down, and the *9¼-year cycle* due to bottom and start up, it is not possible to predict whether prices will make *new* highs over the coming

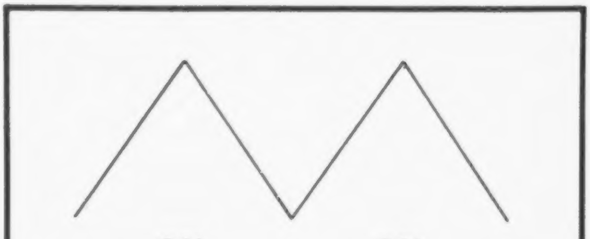
73-Week Silver Cycle
Fig. 1

Exhibit 17



19-Week Silver Cycle
Fig. 2

Exhibit 18



year. However, the low of the *19-week cycle* should be a major bottom.

Soybeans

The soybean market has fewer dominant cycles than silver, but each cycle is a real powerhouse. These cyclic tops and bottoms are shown below. Prior to 1973, the *39-month cycle* was the most powerful cycle, but since then the *24-month cycle* seems to have become the dominant cycle. The *39-month cycle* and the *24-month cycle* last bottomed in 1977. The *39-month cycle* is due to bottom in 1980. Because of the current economic turmoil affecting all markets, the *24-month cycle* is stretching into 1980. With both of these cycles due to bottom in 1980, a major bull market is about to begin that could see prices as high as $12–$15 over the next two years.

Exhibit 19

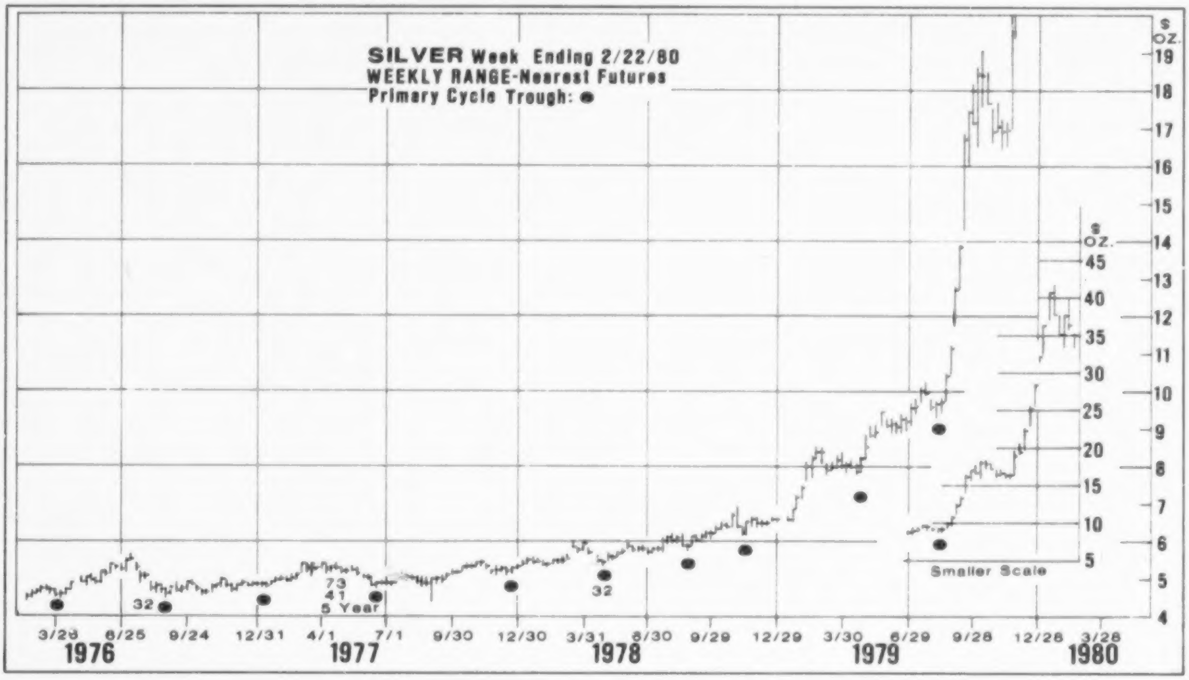


Exhibit 20

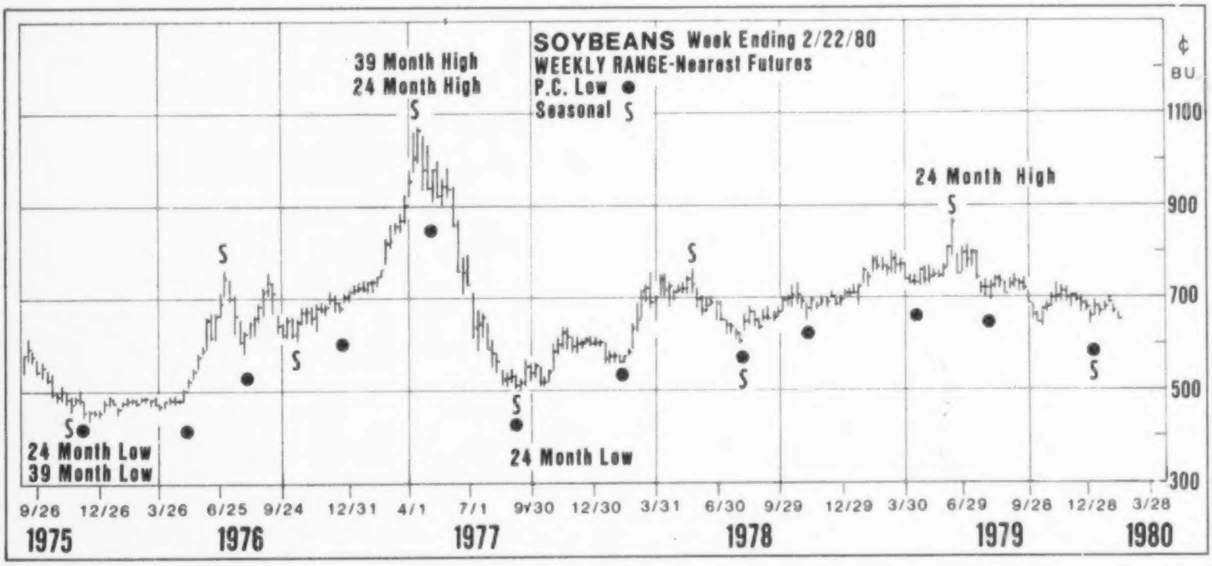


Exhibit 21

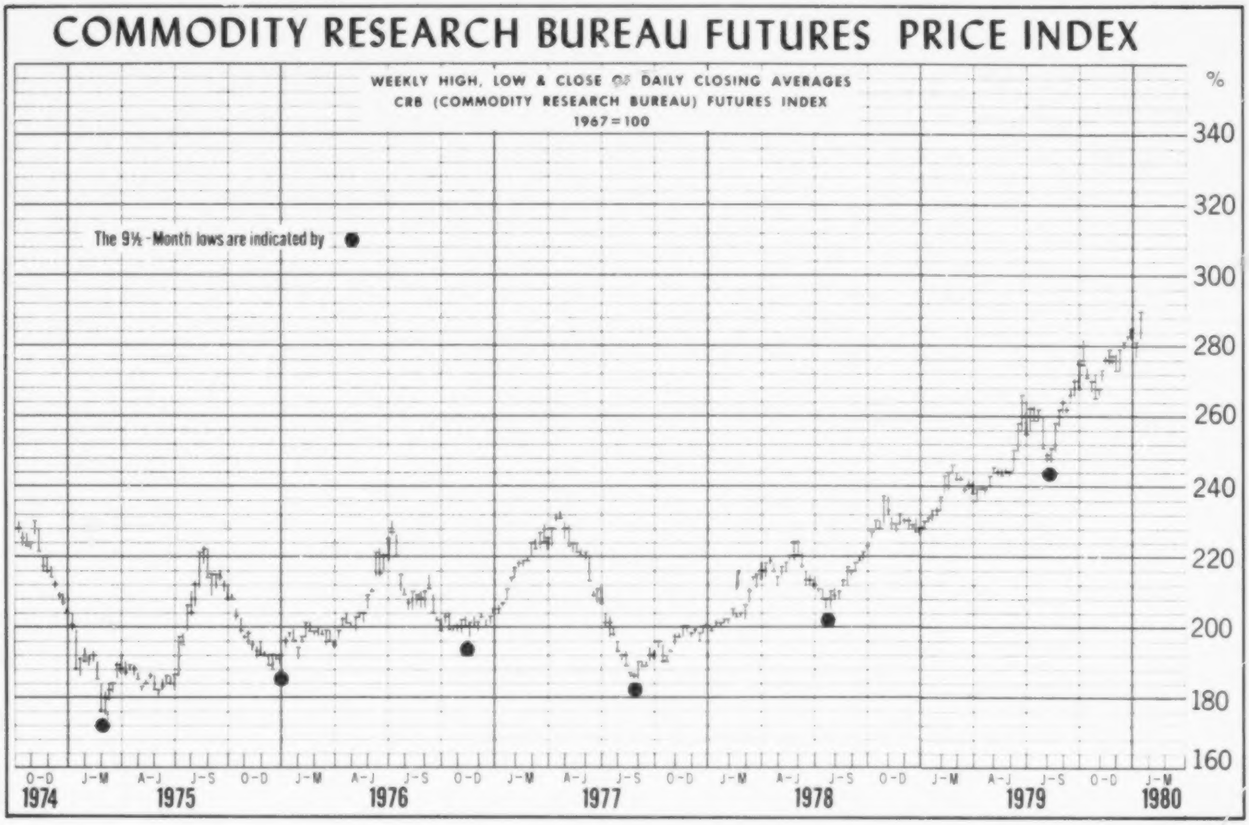
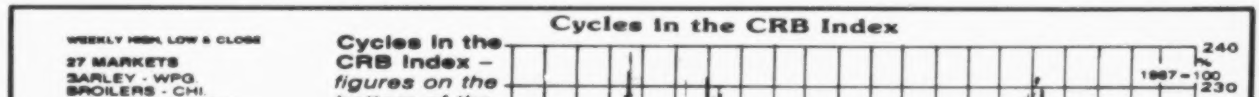


Exhibit 22



The *seasonal cycle* is secondary to the larger cycles, and its tops and bottoms can be distorted by them, although still occurring in *timing bands* three years out of four. The seasonal tops and bottoms are indicated by an "S."

The *16-week primary cycle* moves within the framework of the three larger cycles, and due to the distortion caused by these larger cycles, ranges in length from 15 weeks to 21 weeks. The lows are indicated by a dot (.)

The Commodity Research Bureau (CRB) Index

While each commodity has its own set of individual cycles, there is an underlying cycle that affects the commodity markets as a whole and shows up quite clearly in the CRB Index. It is not the only dominant cycle affecting commodity prices; there is a *5½-year cycle*, an *11-year cycle*, and a powerful 54-*year cycle*, but it is a very visible and consistent cycle, with 25 samples going back to the mid-1950s. This cycle averages 10½ months from low to low, but rather than use an average, let's construct a *70 percent timing band* for the 1980 low that will be useful for years to come. Table 1 shows the time periods from low to low; Table 2 shows the frequency of occurrence.

Table 1. CRB Cycle Lengths from Low to Low

	Mos.		Mos.
1957–58	11	1969–70	10
1958	9	1970–71	8
1959–60	13	1971	9
1960	10	1971–72	8
1961	11	1972–73	9
1961–62	11	1973–74	7
1962–63	10	1974–75	10
1963–64	11	1975	9
1964–65	12	1975–76	11
1965–66	11	1976–77	9
1966–67	14	1977–78	11
1967–68	12	1978–79	10
1968–69	11		

Table 2.

Cycle Length	Frequency of Occurrence	
7 months	1	15%
8 months	2	
9 months	5	70%
10 months	4	
11 months	8	
12 months	2	
13 months	2	15%
14 months	1	

To construct the 70 *percent timing band*, the shortest 15 percent are eliminated as are the longest 15 percent, leaving a *70 percent timing band* of 9 to 12 months. This indicates that the upcoming CRB low for 1980 is due between April and July (the 1979 low was the last week of July), and this low should be followed by a bull market that lasts at least 5½ months.

Conclusion

This article just scratches the surface of cyclic analysis, and the smaller daily cycles require much more attention to pinpoint the week, and even the day, of tops and bottoms of these cycles. Market cycles are not exact sine waves and can extend, contract, and even skip a beat. The various length cycles can combine to form patterns unexplainable by physics. In short, cyclic analysis is still in the infancy stage, and is more of an interpretive art than a science. Hindsight is always 20/20, and the real test of cycles comes as theory is applied to current market situations. Study and research will give you another analytical tool that could become one of your most reliable and accurate methods of analysis.

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Commodity Research Bureau, Inc.
ONE LIBERTY PLAZA • NEW YORK, N. Y. 10006

COMMITMENTS OF TRADERS REPORTS AS AN AID TO PRICE FORECASTING

BY WILLIAM L. JILER

Each month, the Commodity Futures Trading Commission (CFTC) issues a report entitled "Commitments of Traders in Commodity Futures" which provides a breakdown of month-end open interest of reporting (large) and non-reporting (small and/or foreign) traders. The statistical tables in the report indicate how open interest is allocated among large speculators and large hedgers. And, by subtracting large traders' commitments from total open interest, the positions of small traders (both speculative and hedging) are also derived and presented in tabular form.

At Commodity Research Bureau, Inc. (CRB), we have developed techniques to utilize these statistics as a valuable aid in the technical forecasting of commodity price movements. Our original research was completed seventeen years ago, and forecast results based on this approach have survived the test of time. The pertinent statistics have been gleaned from these reports, recalculated, and published in a tabular format as a regular feature of CRB's weekly COMMODITY CHART SERVICE.® These statistics are analyzed continuously, and when they provide clues to future price trends, findings are published in the "Technical Comments" section of the same weekly publication.

We will more fully describe these reports, explain how they are used to help forecast prices, and give examples of how, and under what conditions the method actually worked. And, along with these examples, we have provided you with basic charts that can help you utilize the same techniques for do-it-yourself forecasting in the future. These charts depict the normal levels of open interest for the various categories of traders in specific markets.

"Commitments of Traders" Reports

The official CFTC report is scheduled for release on the 11th day of each month, or the next business day if the 11th is a Saturday, Sunday or holiday. There are a number of terms used that require further explanation that will aid in your understanding of the report. *Open interest* refers to the number of futures contracts that have been entered into and not yet liquidated or fulfilled by delivery. A purchase of one contract, when balanced by a sale of one contract, is considered as a total of one open contract. A reporting (large) trader is one who holds or controls a position in any one future of a commodity on any one contract market equaling or exceeding the quantities established by the CFTC as a *reporting level;* e.g., in May 1980, the *reporting level* for wheat, corn and soybeans was 500,000 bushels. In the tables, *OLD* refers to old-crop futures based on marketing seasons. In spreading, *ALL* futures in each commodity includes each trader's long and short positions without regard to which crop year/calendar year or market is involved. It is very important to note that because of intermarket spreading, long and short spread positions in a given futures market *will not* be equal. This causes confusion because percentage figures usually do not add up to exactly 100%. For your examination, a copy of a recent table on soybean open interest appears in figure 1.

The open-interest reporting series was started way back in the late 1930's under the Commodity Exchange Authority, the predecessor government agency to the CFTC. Over the years, the coverage was greatly expanded. The latest additions were made in July of 1978 and they included imported commodities, some metals, and the most active financial futures markets. Because of the relatively short time that these new statistics have been available, it is too early to tell how effective our method will be for these markets. At this writing, there are still some very important markets not covered, such as copper, gold and silver.

The Forecasting Methodology

Basically, we tried to determine the "forecasting" performance of the major identifiable groups of market participants—large hedgers, large speculators, and small traders. It was logical to assume that the larger and more sophisticated traders should have market insights that would enable them to predict futures price movements, if not infallibly, at least more accurately than the small traders who presumably included the "uninformed public." We also thought it was possible that the sizes of the various market positions, at different times, could well result in a type of self-fulfilling prophecy.

From the statistics in the "Commitments of Traders" report, we were able to approximate the net positions at the end of each month for large hedgers, large speculators, and small traders. We averaged their month-end statistics over a number of years to find out what their normal positions would be at any given time of the year. We then compared each group's actual position with their so-called normal position. Whenever their positions deviated materially from the norm, we took it as a measure of their bullish or bearish attitude on the market.

By studying subsequent price movements, we were able to establish "track records" for each of the groups. As anticipated, we found that large hedgers and large speculators had the best forecasting records, and the small traders the worst, by far. We were somewhat surprised to find that the large hedgers were consistently superior to the large speculators. However, the predictive results for the large speculators varied widely from market to market.

The differences between their current net open interest position and the seasonal norm supply us with a tangible percentage measure of the degree of bullishness or bearishness of each group towards a particular market. From these "net-net" figures, we obtain a configuration of market attitudes of the principal players. From our research and long experience we have drawn up some general guidelines:

> *The most bullish configuration would show large hedgers heavily net long more than normal, large speculators clearly net long, small traders heavily net short more than seasonal. The shades of bul-*

lishness are varied all the way to the most bearish configuration which would have these groups in opposite positions—large hedgers heavily net short, etc. We would caution analysts to disregard patterns that only deviate less than five percent. We found that such small deviations had little predictive value.

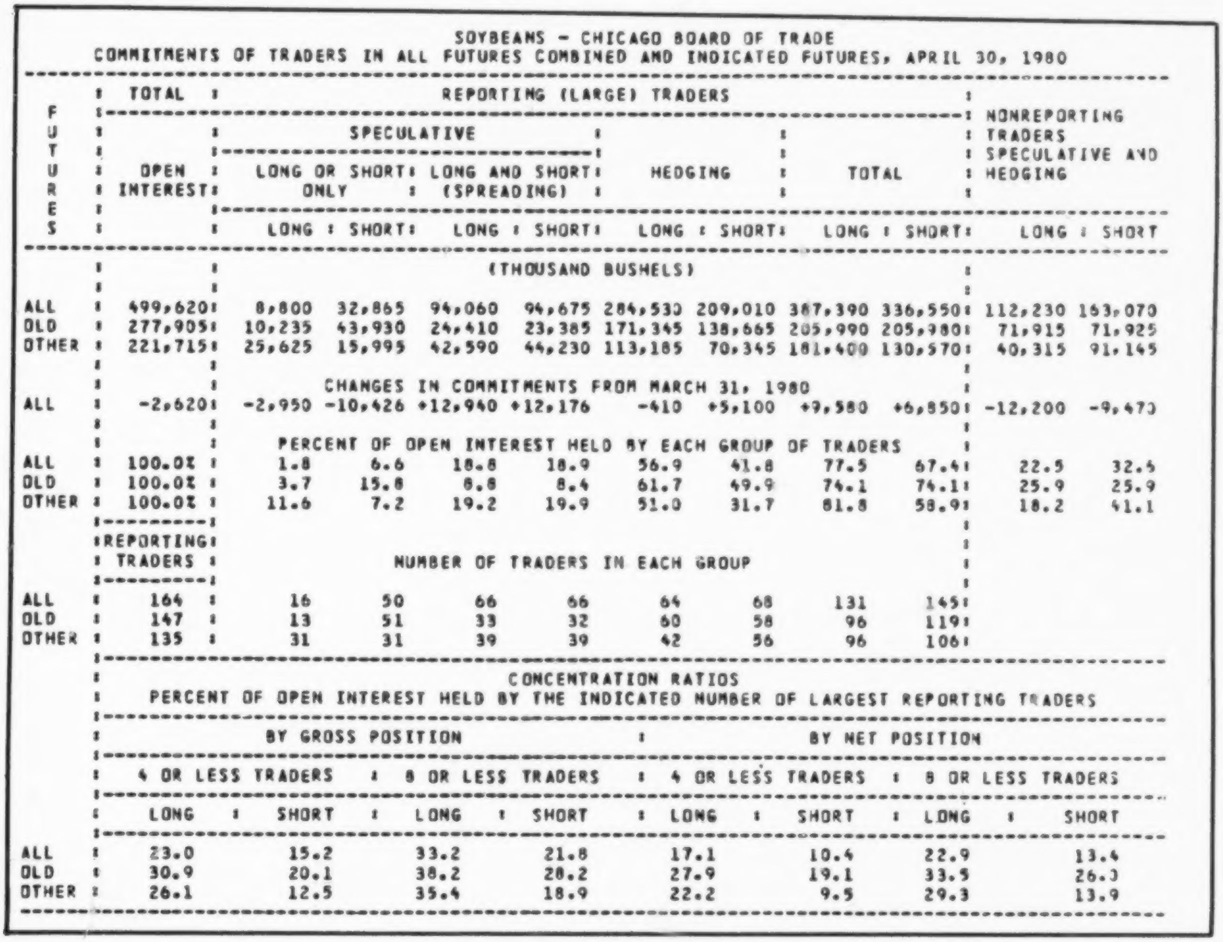
To show you more specifically how we utilized the statistics for this research study, we refer to the soybean table in figure 1, reproduced from the April 30, 1980 CFTC "Commitments" report. We used the figures under "Percent of Open Interest Held by Each Group of Traders" (the *ALL* category). You will note that *Large Hedgers* were long 56.9% and short 41.8%. This indicated that they were net long 15% at the end of April.

In figure 2, we reproduced the Open Interest table from our weekly COMMODITY CHART SERVICE, which shows how we presented all the statistics from the April, 1980 "Commitments of Traders" report. Under soybeans, we rounded off these same figures to show large hedgers long 57%, short 42% and net long 15.1%. We also showed the change from the previous month of −1%, indicating that they had decreased their net long position by 1%. You can also see the appropriate statistics for large speculators and small traders for soybeans and all other commodities in the report.

In order to find out what the normal open interest positions were for each commodity at the end of any particular time of the year, we averaged the end-of-month statistics for each reported market over a period of years. Our original research, in the late 1960's, only went back three years. Later, we expanded it to five and ten years. Our most recent seasonals were updated for the ten-year period 1970–1979, and are shown in chart form at the end of this presentation. It is interesting to note that the patterns of the three-year study didn't change much when expanded to include more recent years. In the examples that follow, we refer to our latest updated charts for illustrative purposes.

To demonstrate the technique of forecasting commodity price movements with the use of the "Commitments of Traders" reports, we decided to give concrete examples of recent actual forecasts published by us in the "Technical Comments" section of CRB's weekly COMMODITY CHART SERVICE. We believe that regression analysis has a great deal of validity, but it is much more meaningful to show how analysis worked in "real time." It is only fair to point out that we also found analyses that proved to be com-

Figure 1



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                                   SOYBEANS - CHICAGO BOARD OF TRADE
      COMMITMENTS OF TRADERS IN ALL FUTURES COMBINED AND INDICATED FUTURES, APRIL 30, 1980
---------------------------------------------------------------------------------------------------
      :  TOTAL  :                      REPORTING (LARGE) TRADERS                    :
 F    :---------------------------------------------------------------------------: NONREPORTING
 U    :         :          SPECULATIVE            :                :                : TRADERS
 T    :         :---------------------------------:                :                : SPECULATIVE AND
 U    :  OPEN   :  LONG OR SHORT: LONG AND SHORT:     HEDGING      :     TOTAL      : HEDGING
 R    : INTEREST:     ONLY      :  (SPREADING)  :                  :                :
 E    :         :---------------------------------------------------------------------------------
 S    :         :  LONG : SHORT:   LONG : SHORT:   LONG : SHORT:    LONG : SHORT:     LONG : SHORT
---------------------------------------------------------------------------------------------------
      :         :                        (THOUSAND BUSHELS)                         :
      :         :                                                                   :
ALL   :  499,620:  8,800  32,865  94,060  94,675 284,530 209,010 387,390 336,550: 112,230 163,070
OLD   :  277,905: 10,235  43,930  24,410  23,385 171,345 138,665 205,990 205,980:  71,915  71,925
OTHER :  221,715: 25,625  15,995  42,590  44,230 113,185  70,345 181,400 130,570:  40,315  91,145
      :         :                                                                   :
      :         :         CHANGES IN COMMITMENTS FROM MARCH 31, 1980                :
ALL   :   -2,620: -2,950 -10,426 +12,940 +12,176    -410  +5,100  +9,580  +6,850: -12,200  -9,470
      :         :                                                                   :
      :         :      PERCENT OF OPEN INTEREST HELD BY EACH GROUP OF TRADERS       :
ALL   :  100.0% :    1.8     6.6    18.8    18.9    56.9    41.8    77.5    67.4:    22.5    32.6
OLD   :  100.0% :    3.7    15.8     8.8     8.4    61.7    49.9    74.1    74.1:    25.9    25.9
OTHER :  100.0% :   11.6     7.2    19.2    19.9    51.0    31.7    81.8    58.9:    18.2    41.1
      :---------:                                                                   :
      :REPORTING:                                                                   :
      : TRADERS :               NUMBER OF TRADERS IN EACH GROUP                     :
      :---------:                                                                   :
ALL   :   164   :     16      50      66      66      64      68     131     145:
OLD   :   147   :     13      51      33      32      60      58      96     119:
OTHER :   135   :     31      31      39      39      42      56      96     106:
      :-------------------------------------------------------------------------------------------
      :                              CONCENTRATION RATIOS
      :   PERCENT OF OPEN INTEREST HELD BY THE INDICATED NUMBER OF LARGEST REPORTING TRADERS
      :-------------------------------------------------------------------------------------------
      :               BY GROSS POSITION                 :               BY NET POSITION
      :-------------------------------------------------------------------------------------------
      :   4 OR LESS TRADERS   :   8 OR LESS TRADERS     :  4 OR LESS TRADERS  :  8 OR LESS TRADERS
      :-------------------------------------------------------------------------------------------
      :    LONG    :   SHORT   :   LONG    :   SHORT    :  LONG    :   SHORT   :  LONG   :   SHORT
      :-------------------------------------------------------------------------------------------
ALL   :    23.0        15.2        33.2        21.8        17.1       10.4       22.9        13.4
OLD   :    30.9        20.1        38.2        28.2        27.9       19.1       33.5        26.0
OTHER :    26.1        12.5        35.4        18.9        22.2        9.5       29.3        13.9
---------------------------------------------------------------------------------------------------
```

pletely misleading, but these were surprisingly few. Most of the time, the "Commitments" reports show that the three main market participants follow their normal patterns, and rarely get very much out of line. But even minor abnormalities can hold predictive values. We recall that shifting positions were often harbingers of the end of major moves. We are focusing our examples on the more extreme distortions, which resulted in unusually large moves.

The first example relates to our comments on the corn market, and is from our issue of June 16, 1978. We quote, "The latest open interest figures look bearish to us, with large hedgers net short 26.2% and small traders net long by 19.4%." If you will look at the corn open interest chart, you will see that large hedgers at the end of May are normally 12% net short and small traders about 8% net long. Therefore, the positions of large hedgers were short over 14% more than usual. At the same time, small traders were top-heavy on the long side, holding over 12% more than their usual pattern. On June 16, the price of March 1979 corn closed around $2.60 a bushel. By August 11, it had dropped to $2.22 a bushel at the low. In the same June 16 issue, we interpreted the open interest positions for the soybean complex as bearish, and prices of all three commodities moved lower in the following months.

Figure 2

Open Interest—Large Hedgers, Speculators and Small Traders
Positions Shown in Percent (Rounded) as of April 30, 1980

MARKETS	LARGE HEDGERS				LARGE SPECULATORS				SMALL TRADERS			
	LONG	SHORT	NET	△	LONG	SHORT	NET	△	LONG	SHORT	NET	△
Broilers -C. M. E.	48	31	+ 17	- 14	*	*	0	+ 5	52	69	- 17	+ 8
Cattle (Live)	7	27	- 20	- 5	14	8	+ 6	+ 11	71	56	+ 15	- 4
Cattle (Feeder)	30	9	+ 21	+ 14	15	25	- 10	- 5	49	59	- 10	- 8
Cocoa	43	31	+ 12	+ 1	8	17	- 9	- 11	49	52	- 3	+ 11
Coffee	21	37	- 16	+ 8	5	8	- 3	- 5	74	53	+ 21	- 2
Corn	59	53	+ 6	- 10	4	2	+ 2	+ 3	27	36	- 9	+ 5
Cotton	20	51	- 31	+ 5	15	5	+ 10	- 9	47	26	+ 21	+ 5
Eggs	0	0	0	Unch.	0	0	0	Unch.	100	100	0	Unch.
Hogs	6	3	+ 3	+ 2	22	18	+ 4	+ 11	60	67	- 7	- 14
Lumber	18	18	0	- 11	5	15	- 10	- 1	65	55	+ 10	+ 12
Oats	26	42	- 16	+ 21	2	4	- 2	+ 5	66	47	+ 19	- 24
Orange Juice	56	47	+ 9	- 5	8	3	+ 5	- 2	26	40	- 14	+ 9
Platinum	3	34	- 31	- 9	18	3	+ 15	+ 2	67	52	+ 15	+ 6
Pork Bellies	1	11	- 10	+ 2	9	28	- 19	- 2	78	50	+ 28	- 2
Potatoes (NY)	7	63	- 56	-22	13	3	+ 10	+ 21	80	34	+ 46	+ 1
Soybeans	57	42	+ 15	- 1	2	7	- 5	+ 2	23	33	- 10	- 1
Soybean Meal	59	66	- 7	- 3	6	3	+ 3	Unch.	28	25	+ 3	+ 3
Soybean Oil	52	54	- 2	+ 4	6	6	0	Unch.	25	23	+ 2	- 4
Sugar "11"	34	62	- 28	- 14	15	2	+ 13	+ 6	43	28	+ 15	+ 8
Wheat (Chi)	54	36	+ 18	+ 2	2	11	- 9	+ 2	30	40	- 10	- 4
Wheat (K.C.)	85	45	+ 40	+ 5	*	9	- 9	- 7	11	37	- 26	+ 5
Wheat (Minn)	48	77	- 29	- 5	1	*	+ 1	- 3	40	20	+ 20	+ 2
Ginnie Maes (Chi)	19	32	- 13	- 8	6	4	+ 2	+ 1	42	31	+ 11	+ 8
T-Bills (90 Days)	7	37	- 30	- 2	25	8	+ 17	- 2	33	19	+ 14	+ 3
T-Bonds	20	28	- 8	Unch.	7	6	+ 1	- 4	42	35	+ 7	+ 4

* Less than .05%

△ CHANGE IN % NET FROM PREVIOUS MONTH

In our July 13, 1979 comments, we wrote, "The Commitments of Traders report showed bearish configurations for soybeans, soybean meal, and soybean oil. Large hedgers were bearishly net short, and small traders more net long than usual." The special open interest table that appeared in the July 13 issue of COMMODITY CHART SERVICE presented the pertinent statistical profile and is extracted in figure 3.

Figure 3

Open Interest—Large Hedgers, Speculators and Small Traders
Positions Shown in Percent (Rounded) as of JUNE 30, 1979

MARKETS	LARGE HEDGERS				LARGE SPECULATORS				SMALL TRADERS			
	LONG	SHORT	NET	△	LONG	SHORT	NET	△	LONG	SHORT	NET	△
Soybeans	28	45	- 17	- 6	12	2	+ 10	+ 5	37	31	+ 6	- 1
Soybean Meal	27	58	- 31	- 7	15	1	+ 15	+ 6	40	23	+ 17	+ 2
Soybean Oil	32	58	- 26	- 7	10	4	+ 6	+ 2	34	15	+ 19	+ 5

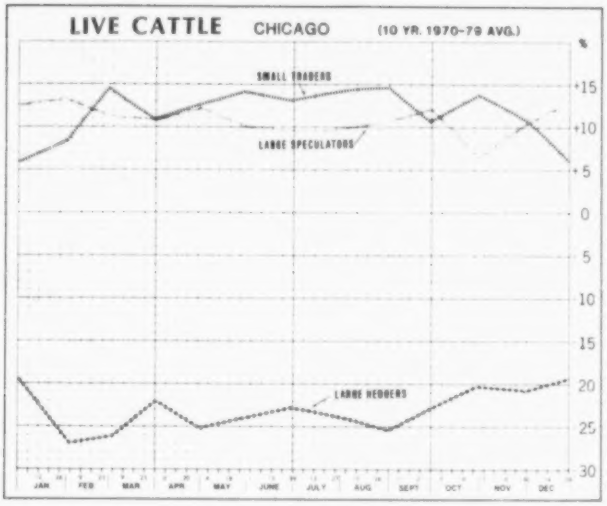
△ CHANGE IN % NET FROM PREVIOUS MONTH

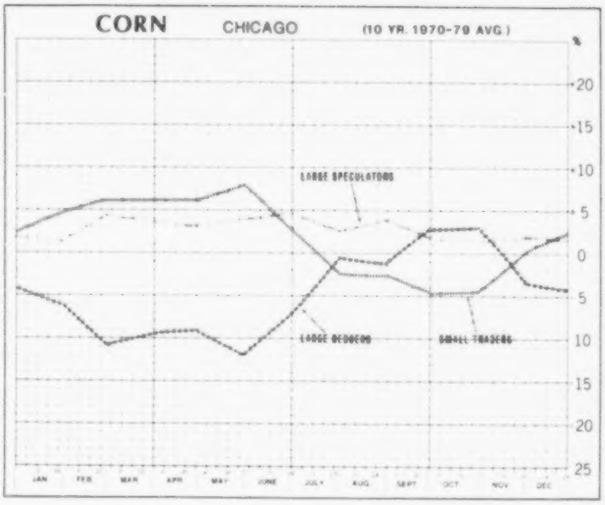
For the month ended June 30, 1979, large hedgers not only increased their short positions 6–7% for soybeans and their products, but were net short by much higher than normal levels. Refer to the 10-year average charts, and you will see that large hedgers had a 17% net short position for soybeans compared with a norm for June 30 of 3%. Soybean meal, at 31% short, was much larger than its normal 8% for that date; and finally, soybean oil, at 26% net short, was some 15% larger than average. If you examine the numbers for the net long position for large speculators and small traders, you will find that their net long positions were much higher than normal. In retrospect, our comments at the time did not do full justice to the bearish implications of the open interest positions.

The prices in early July proved to be the highs for a long time to come. As a matter of fact, the "Commitments" report foreshadowed bear markets that were to last for more than 10 months.

Oat futures in November and early December of 1979 were steady to firm; however, we noted in our Technical Comments of December 14, 1979, "The latest 'Commitments' report continues quite bearish. Small traders are 50% net long, and large hedgers are 43% net short." The 10-year average chart for oats shows small traders normally 18% net long at the end of November, and large hedgers 20% net short. On December 14, the May oats contract closed at $1.65, and by the end of March, it reached a low of $1.31.

While we have shown only some relatively recent examples of this kind of open interest analysis, our experience with the technique goes back over a decade. The performance patterns are fairly consistent. Yet, there were exceptions that proved to be quite dramatic. Therefore, it is important also to utilize other available technical and fundamental tools to arrive at a high probability of success in forecasting prices. The nature of the events that shape price trends of futures contracts should keep even the most proficient of technical and fundamental analysts on their guard and flexible at all times. International developments, weather, and politically-motivated legislation are among the unpredictable forces that can change the direction of the markets in an instant. There is no *master key* that can unlock all the doors to successful price forecasting. Nevertheless, we believe that the proper interpretation of the "Commitments of Traders" reports is valuable and belongs on the analyst's *key ring*.


LIVE CATTLE
CHICAGO
(10 YR. 1970-79 AVG.)
SMALL TRADERS
LARGE SPECULATORS
LARGE HEDGERS
%
+15
+10
+5
0
5
10
15
20
25
30
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEPT
OCT
NOV
DEC


CORN
CHICAGO
(10 YR. 1970-79 AVG.)
LARGE SPECULATORS
LARGE HEDGERS
SMALL TRADERS
%
+20
+15
+10
+5
0
5
10
15
20
25
JAN
FEB
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MAY
JUNE
JULY
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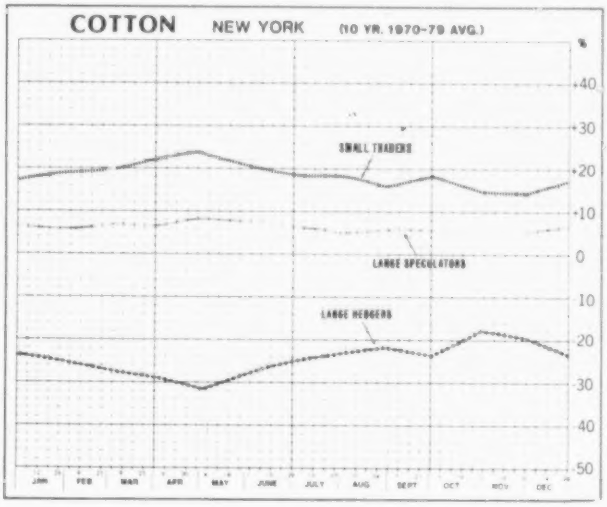
OCT
NOV
DEC


COTTON
NEW YORK
(10 YR. 1970-79 AVG.)
SMALL TRADERS
LARGE SPECULATORS
LARGE HEDGERS
%
+40
+30
+20
+10
0
10
20
30
40
50
JAN
FEB
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APR
MAY
JUNE
JULY
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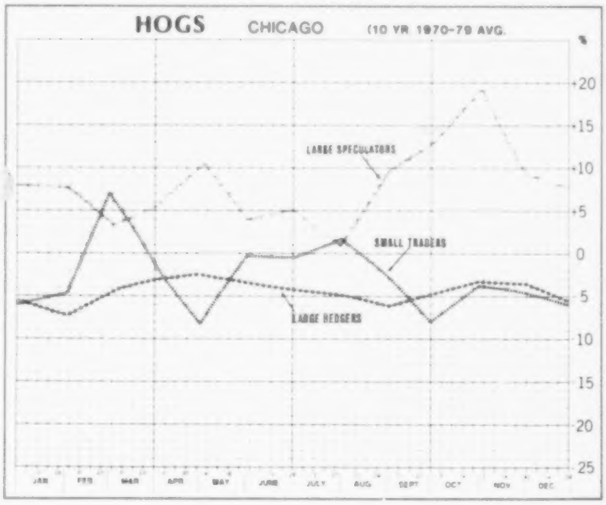
NOV
DEC


HOGS
CHICAGO
(10 YR. 1970-79 AVG.
LARGE SPECULATORS
SMALL TRADERS
LARGE HEDGERS
%
+20
+15
+10
+5
0
5
10
15
20
25
JAN
FEB
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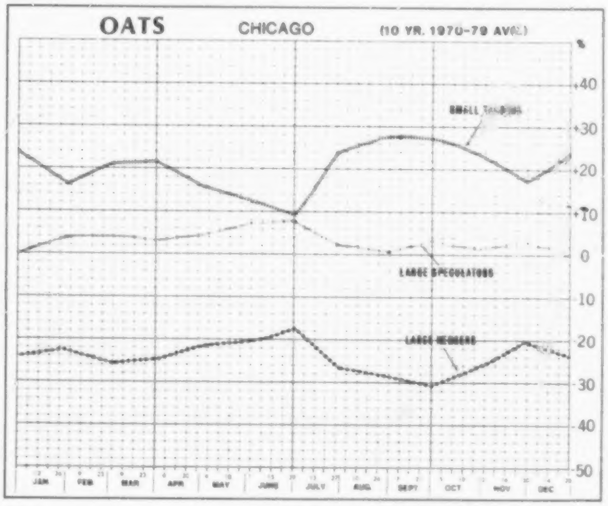
OATS
CHICAGO
(10 YR. 1970-79 AVG.)
SMALL TRADERS
LARGE SPECULATORS
LARGE HEDGERS
%
+40
+30
+20
+10
0
10
20
30
40
50
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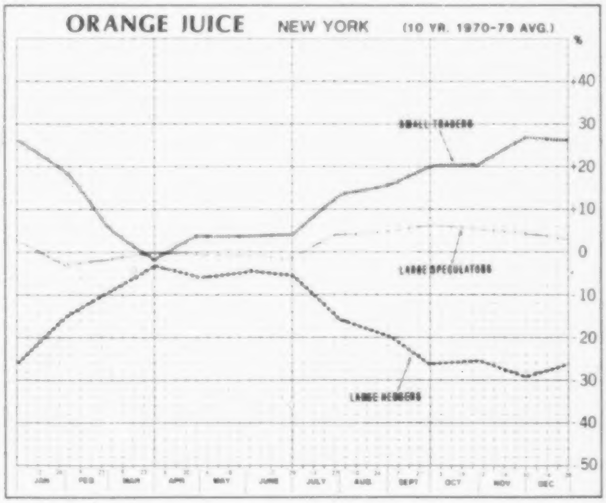
DEC


ORANGE JUICE
NEW YORK
(10 YR. 1970-79 AVG.)
SMALL TRADERS
LARGE SPECULATORS
LARGE HEDGERS
%
+40
30
+20
+10
0
10
20
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50
JAN
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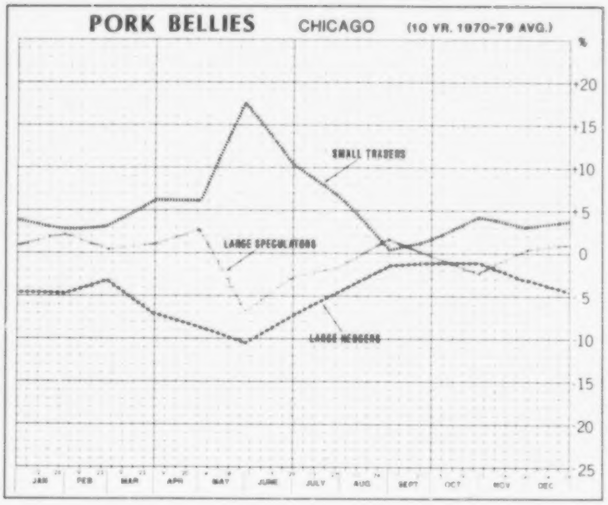
PORK BELLIES CHICAGO (10 YR. 1970-79 AVG.)
SMALL TRADERS
LARGE SPECULATORS
LARGE HEDGERS
%
+20
+15
+10
+5
0
5
10
15
20
25
JAN
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APR
MAY
JUNE
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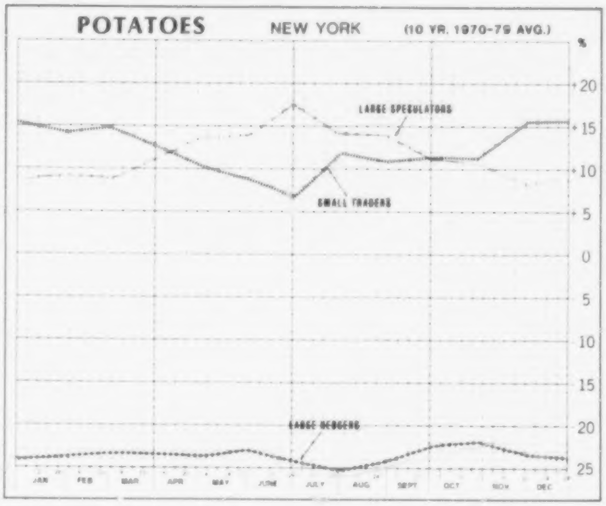
DEC


POTATOES NEW YORK (10 YR. 1970-79 AVG.)
LARGE SPECULATORS
SMALL TRADERS
LARGE HEDGERS
%
+20
+15
+10
+5
0
5
10
15
20
25
JAN
FEB
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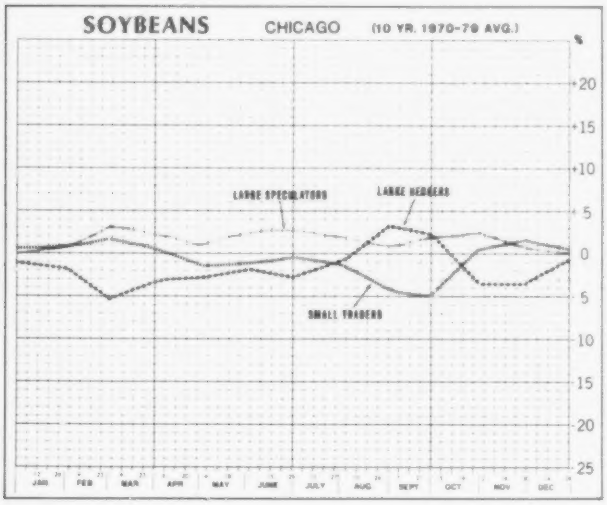
SOYBEANS CHICAGO (10 YR. 1970-79 AVG.)
LARGE SPECULATORS
LARGE HEDGERS
SMALL TRADERS
%
+20
+15
+10
+5
0
5
10
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20
25
JAN
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JULY
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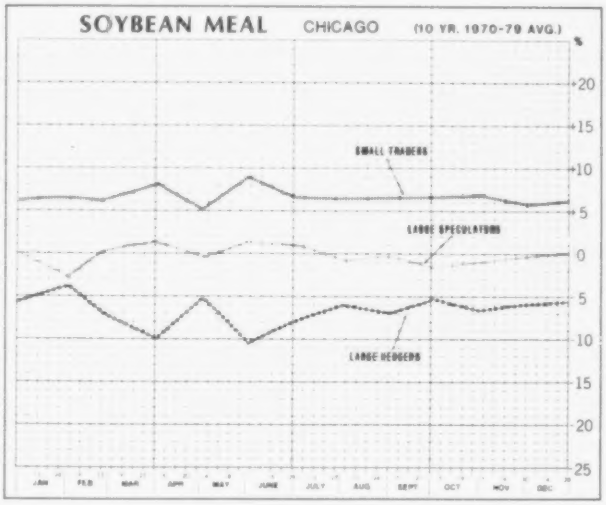
SOYBEAN MEAL CHICAGO (10 YR. 1970-79 AVG.)
SMALL TRADERS
LARGE SPECULATORS
LARGE HEDGERS
%
+20
+15
+10
+5
0
5
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15
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25
JAN
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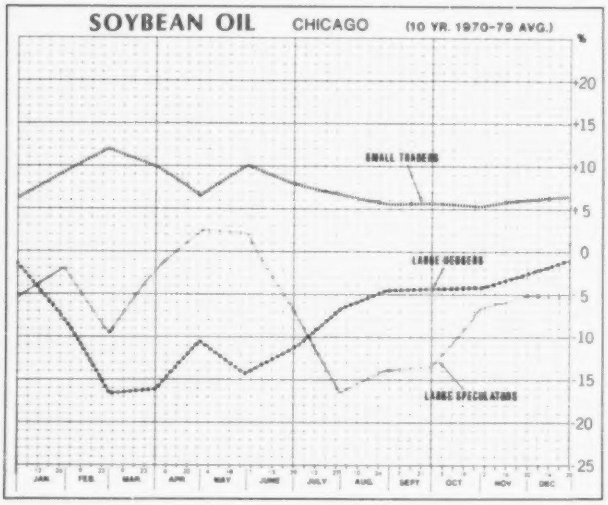
SOYBEAN OIL CHICAGO (10 YR. 1970-79 AVG.)
SMALL TRADERS
LARGE HEDGERS
LARGE SPECULATORS
%
+20
+15
+10
+5
0
5
10
15
20
25
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
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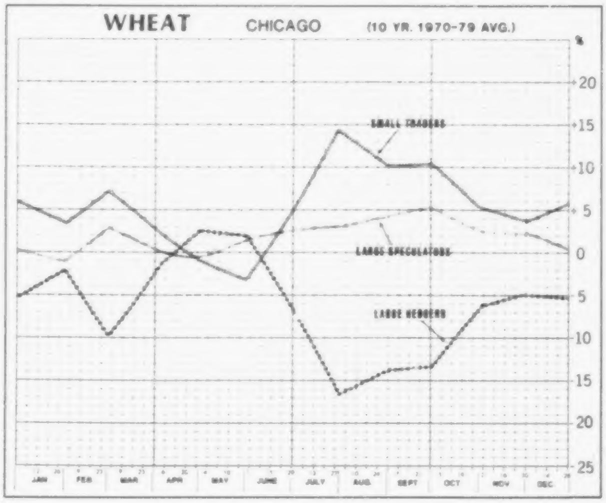
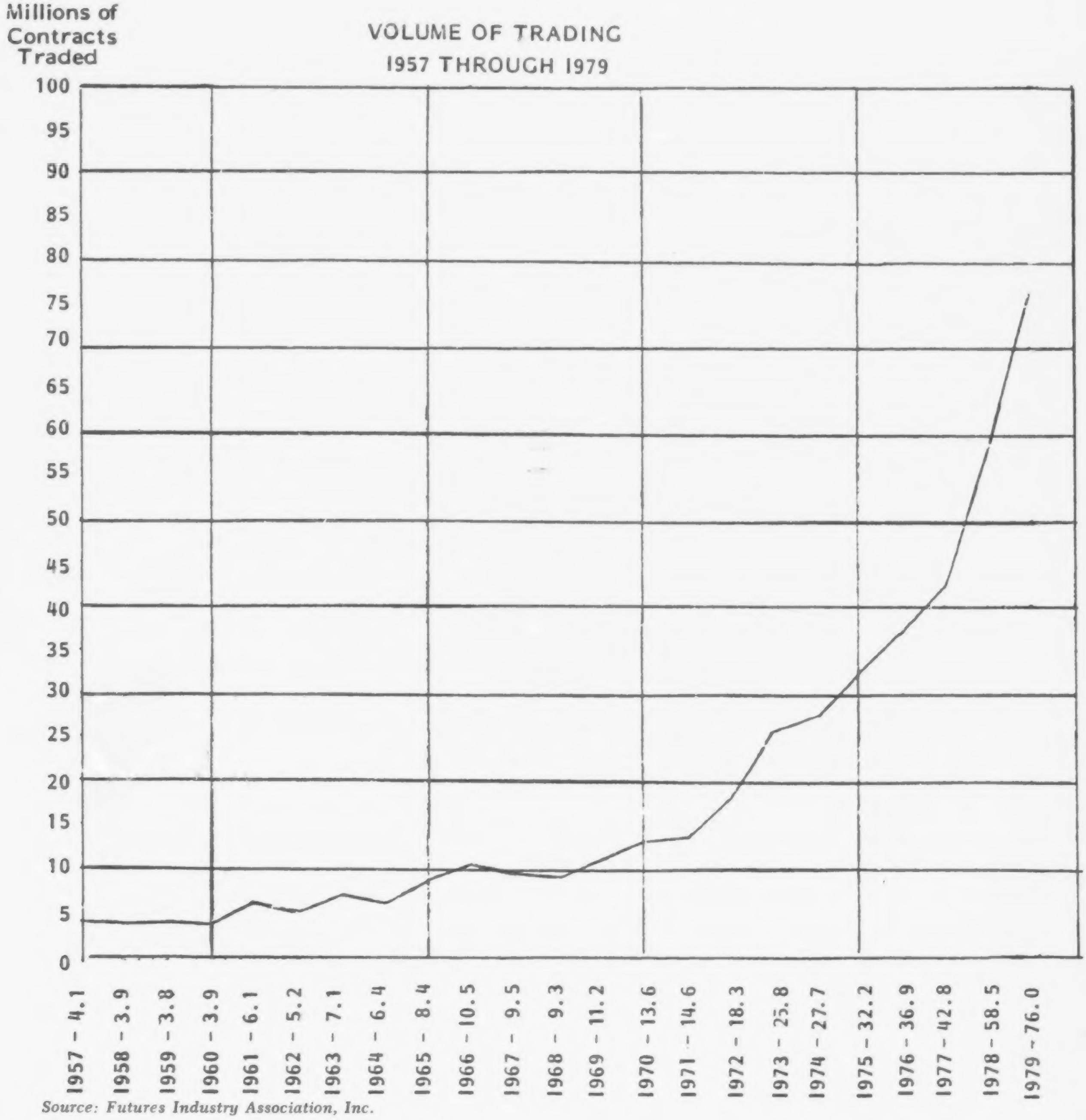
NOV
DEC


WHEAT CHICAGO (10 YR. 1970-79 AVG.)
SMALL TRADERS
LARGE SPECULATORS
LARGE HEDGERS
%
+20
+15
+10
+5
0
5
10
15
20
25
JAN
FEB
MAR
APR
MAY
JUNE
JULY
AUG
SEPT
OCT
NOV
DEC

TRADING ACTIVITY ON THE COMMODITY FUTURES MARKETS

The rate of annual increase in the growth of trading volume in 1979 slackened to a 29.9 percent gain, compared with the record 36.6 percent yearly gain registered in 1978. However, the total number of futures contracts traded (one side only) rose to a record total of almost 76 million contracts. Gold displaced soybeans as the volume leader, followed by corn in third place and then cattle and silver.

The precious metals, as a group, accounted for 24.0 percent of 1979 trading volume; the soybean complex, 20.8 percent; grains, 19.1 percent; livestock, & products and poultry, 15.7 percent; and financial instruments, 7.4 percent of total volume. The largest year-to-year percentage gain in trading volume was registered by financial instruments.



Source: Futures Industry Association, Inc.

VOLUME HIGHLIGHTS

1979 and Comparison with 1978

Rank	EXCHANGE	1979 Contracts	1979 %	1978 Contracts	1978 %	Rank
1.	Chicago Board of Trade	33,870,680	44.59	27,362,929	46.80	(1)
2.	Chicago Mercantile Exchange	19,930,798	26.24	15,153,952	25.92	(2)
3.	Commodity Exchange	12,952,353	17.05	8,973,828	15.35	(3)
4.	MidAmerica Commodity Exchange	2,568,950	3.38	2,121,189	3.63	(4)
5.	Coffee, Sugar & Cocoa Exchange*	2,510,179	3.30	1,425,339	2.44	(6)
6.	New York Cotton Exchange	1,875,126	2.47	1,441,209	2.46	(5)
7.	Kansas City Board of Trade	1,037,018	1.37	755,949	1.29	(8)
8.	New York Mercantile Exchange	828,249	1.09	926,793	1.59	(7)
9.	Minneapolis Grain Exchange	328,799	.43	284,313	.49	(9)
10.	Amex Commodity Exchange	64,319	.08	16,671	.03	(10)
		75,966,471	100.00	58,462,172	100.00	

*New York Coffee & Sugar Exchange and
New York Cocoa Exchange Merged in October 1979

	COMMODITY GROUP	Contracts	%	Contracts	%	Rank
1.	Precious Metals	18,163,696	24.0	13,979,290	23.9	(2)
2.	Soybean Complex	15,808,411	20.8	14,874,579	25.4	(1)
3.	Grain	14,534,603	19.1	10,402,343	17.8	(3)
4.	Livestock & Products and Poultry	11,902,203	15.7	9,686,499	16.6	(4)
5.	Financial Instruments	5,607,005	7.4	2,325,020	4.0	(5)
6.	Import Agric. Commodities 1/	2,510,179	3.3	1,425,339	2.4	(8)
7.	Non-Precious Metals	2,301,108	3.0	1,409,365	2.4	(9)
8.	Foreign Currency	2,222,978	2.9	1,560,749	2.7	(7)
9.	Other Agric. Commodities 2/	2,081,287	2.7	1,967,495	3.4	(6)
10.	Lumber Products	801,107	1.1	831,346	1.4	(10)
11.	Petroleum Products	33,894	--	147	--	(11)
	TOTAL	75,966,471	100.0	58,462,172	100.0	

1/ Excludes Imported Beef

2/ Cotton, Orange Juice, Potatoes & Eggs

Source: Futures Industry Association, Inc.

VOLUME HIGHLIGHTS

1979 and Comparison with 1978

Rank	Contracts With Volume Over 100,000	1979		1978		
		Contracts	%	Contracts	%	Rank
1.	Soybeans, Chicago BOT	9,114,348	12.00	8,477,277	14.50	(1)
2.	Corn, Chicago BOT	8,671,719	11.42	6,127,099	10.48	(2)
3.	Live Cattle, Chicago Merc.	7,214,848	9.50	5,592,364	9.57	(3)
4.	Gold, Commodity Exchange	6,541,893	8.61	3,742,378	6.40	(5)
5.	Silver, Commodity Exchange	4,080,619	5.37	3,822,085	6.54	(4)
6.	Wheat, Chicago BOT	3,575,395	4.71	2,556,134	4.37	(9)
7.	Gold, Chicago Merc.	3,558,960	4.68	2,812,870	4.81	(7)
8.	Soybean Oil, Chicago BOT	3,081,646	4.06	2,909,284	4.98	(6)
9.	Silver, Chicago BOT	2,720,589	3.58	2,657,833	4.55	(8)
10.	Soybean Meal, Chicago BOT	2,647,821	3.49	2,493,086	4.26	(10)
11.	Copper, Commodity Exchange	2,301,033	3.03	1,408,688	2.41	(13)
12.	T-Bonds, Chicago BOT	2,059,594	2.71	555,350	.95	(22)
13.	T-Bills (90 Day), Chicago Merc.	1,930,482	2.54	768,980	1.32	(18)
14.	Live Hogs, Chicago Merc.	1,805,710	2.38	1,765,201	3.02	(11)
15.	Sugar #11, Coffee, Sugar & Cocoa	1,792,723	2.36	1,016,773	1.74	(15)
16.	Cotton #2, New York Cotton	1,689,051	2.22	1,155,801	1.98	(14)
17.	Pork Bellies, Fzn, Chicago Merc.	1,514,176	1.99	1,439,651	2.46	(12)
18.	GNMA Mrtges, CDR#, Chicago BOT	1,371,078	1.80	953,161	1.63	(17)
19.	Wheat, Kansas City BOT	1,037,018	1.37	755,949	1.29	(19)
20.	Feeder Cattle, Chicago Merc.	980,619	1.29	568,728	.97	(20)
21.	Soybeans, MidAmerica	964,596	1.27	994,932	1.70	(16)
22.	Lumber, Chicago Merc.	649,478	.85	560,498	.96	(21)
23.	Platinum, New York Mercantile	536,124	.71	405,748	.69	(24)
24.	British Pound, Chicago Merc.	513,682	.68	240,099	.41	(33)
25.	Swiss Franc, Chicago Merc.	493,944	.65	321,451	.55	(28)
26.	Deutschemark, Chicago Merc.	450,856	.59	400,569	.68	(25)
27.	Coffee "C", Coffee, Sugar & Cocoa	449,799	.59	163,959	.28	(39)
28.	Canadian Dollar, Chicago Merc.	399,885	.53	207,654	.35	(36)
29.	Wheat, MidAmerica	379,975	.50	205,629	.35	(37)
30.	Silver, MidAmerica	361,576	.48	378,049	.65	(26)
31.	Japanese Yen, Chicago Merc.	329,645	.43	361,731	.62	(27)
32.	Wheat, Minneapolis Grain	328,799	.43	284,313	.49	(30)
33.	Corn, MidAmerica	323,808	.43	256,022	.44	(32)
34.	Cocoa (30,000 lbs), Coffee, Sugar & Cocoa	231,918	.31	222,732	.38	(34)
35.	Oats, Chicago BOT	215,928	.28	215,774	.37	(35)

Source: Futures Industry Association, Inc.

	CONTRACT UNIT	1979	1978	1977	1976	1975
Coffee "C"	37,500 lbs	449,799	163,959	214,202	174,486	71,063
Coffee "B"	32,000 lbs	--	---	---	13	9
Sugar #11	112,000 lbs	1,792,723	1,016,773	1,055,984	984,677	790,630
Sugar #12	"	35,474	21,875	15,676	14,052	1,641
Sugar, Domes (10 &7)	"	---	---	---	---	9,725
Cocoa	30,000 lbs	231,918	222,732	307,628	333,421	313,760
Cocoa	100 ^{m} tons	265	---	---	---	---
Rubber	33,000 lbs	---	---	53	611	4,200
COFF. SUG. & COCOA EXCH		2,510,179	1,425,339	1,593,543	1,507,260	1,191,028
Cotton #2	50,000 lbs	1,689,051	1,155,801	826,395	938,543	525,103
Orng Jce, Fzn Con	15,000 lbs	186,018	285,405	377,921	69,587	65,846
Propane	100,000 gls	57	3	301	1,958	4,761
Petroleum	5,000 Brls	---	---	---	7,346	34,326
Wool	5,000 lbs	---	---	3	532	899
N.Y. CTN. EX. CITRUS & PETRO.		1,875,126	1,441,209	1,204,620	1,017,966	630,935
Palladium	100 oz	46,994	45,174	19,971	6,811	1,349
Platinum	50 oz	536,124	405,748	122,924	135,810	90,287
U.S. Silv. Coins	$ 10,000	5,462	9,887	15,514	29,751	50,659
Gold	1 Kg	171	620	1,017	2,351	36,733
Gold	400 oz	533	2,748	2,633	---	---
British Pound	25,000	420	500	---	---	---
Canadian Dollar	100,000	3,866	181	---	---	---
Deutschemark	125,000	182	1,844	---	---	---
Japanese Yen	12,500,000	43	441	---	---	---
Belgian Franc	2,000,000	---	---	---	5,604	28,535
Swiss Franc	125,000	45	401	---	4	4
Mexican Peso	1,000,000	---	---	---	---	5
Imp. Lean Beef	36,000 lbs	16,704	5,890	2,690	3,114	3,396
Potatoes, Maine	50,000 lbs	---	---	41,248	413,021	795,732
Potatoes	50,000 lbs	183,868	453,215	478,558	43,649	---
No. 2 Heating Oil	1,000 Brls	33,804	116	---	---	8
No. 6 Ind'l Fuel Oil	1,000 Brls	33	28	---	---	98
N.Y. MERC. EXCH.		828,249	926,793	684,555	640,115	1,006,806
Coconut Oil	60,000 lbs	---	---	---	961	5,792
Coconut Oil	500 tons	---	---	---	66	44
Live Cattle	22,500 lbs	---	---	---	57	900
Silver	5,000 ozs	---	---	---	75	5,055
Silver	1,000 ozs	---	---	---	---	207
Palm Oil	60,000 lbs	---	---	---	324	2,468
Palm Oil	500 tons	---	---	---	29	25
PACIFIC COMM. EX.		---	---	---	1,512	14,491
TOTAL ALL CONTRACTS		75,966,471	58,462,172	42,847,064	36,875,727	32,200,106
CHANGE FROM PREVIOUS YEAR		+29.9%	+36.3%	+16.3%	+14.5%	+16.1%

COMMODITY FUTURES CONTRACTS TRADED 1975-1979

	CONTRACT UNIT	1979	1978	1977	1976	1975
Wheat	5,000 bu	3,575,395	2,556,134	1,820,790	2,973,733	2,262,841
Corn	"	8,671,719	6,127,099	5,021,827	4,609,262	4,835,049
Oats	"	215,928	215,774	109,970	126,885	154,067
Soybeans	"	9,114,348	8,477,277	7,996,139	5,474,179	3,913,804
Soybean Oil	60,000 lbs	3,081,646	2,909,284	2,535,046	1,685,819	1,489,720
Soybean Meal	100 tons	2,647,821	2,493,086	2,373,453	1,523,711	792,227
Iced Broilers	30,000 lbs	25,681	74,684	64,938	117,641	179,393
Silver	5,000 ozs	2,720,589	2,657,833	2,257,059	2,011,041	1,952,703
Gold	3 Kgs	12,844	56,470	13,758	10,940	54,331
Gold	100 ozs	97,509	---	---	---	---
Plywood	76,032 sq. ft.	146,570	261,483	368,770	233,373	285,486
Stud Lumber	100,000 bd. ft.	---	---	---	4	2,320
GNMA Mrtges, CD#	$ 100,000	77,365	6,527	---	---	---
GNMA Mrtges, CDR#	"	1,371,078	953,161	422,421	128,568	20,125
Com. Paper (90 Day)	$1,000,000	39,702	18,767	3,553	---	---
Com. Paper (30 Day)	$3,000,000	1,292	---	---	---	---
T-Notes (4-6 yr)	$ 100,000	11,599	---	---	---	---
T-Bonds	$ 100,000	2,059,594	555,350	32,101	---	---
CHI. BD. OF TR.		33,870,680	27,362,929	23,019,825	18,895,156	15,942,066
Wheat	1,000bu	379,975	205,629	151,433	514,048	363,821
Corn	"	323,808	256,022	280,268	418,715	802,173
Oats	5,000bu	1,961	1,423	1,172	2,904	4,987
Soybeans	1,000bu	964,596	994,932	1,104,763	700,466	657,132
Silver	1,000ozs	361,576	378,049	366,585	447,513	439,915
U.S. Silv. Coins	$ 5,000	---	---	---	---	52
Gold	1Kg	4	3,214	2,650	2,573	6,872
Gold	33.2oz	200,359	41,939	---	---	---
Live Cattle	20,000lbs	208,997	54,054	---	---	---
Live Hogs	15,000lbs	127,674	185,927	159,324	145,647	139,669
MIDAM. COM. EX.		2,568,950	2,121,189	2,066,195	2,231,866	2,414,621
Wheat	5,000bu	1,037,018	755,949	617,122	687,811	608,901
Corn	"	---	---	---	539	---
Grain Sorghum	280,000lbs	---	---	15	---	---
KAN. CITY B. OF T.		1,037,018	755,949	617,137	688,350	608,901
Wheat	5,000bu	328,799	284,313	191,098	228,084	197,134
Durum Wheat	"	---	---	36	471	2,231
MINNEAP. GR. EX.		328,799	284,313	191,134	228,555	199,365

	CONTRACT UNIT	1979	1978	1977	1976	1975
Fresh Eggs	22,500 doz	21,224	72,984	130,042	146,341	142,968
Nest Run Eggs	"	---	---	---	---	76
Butter	30,000 lbs	---	---	---	22	4
Potatoes	80,000 lbs	1,126	90	4,727	1,889	1,974
Live Hogs	30,000 lbs	1,805,710	1,765,201	1,307,712	1,146,815	1,426,507
Pork Bellies, Fzn	38,000 lbs	1,514,176	1,439,651	1,358,730	1,201,066	1,443,464
Live Cattle	40,000 lbs	7,214,848	5,592,364	2,639,517	2,647,700	2,457,259
Feeder Cattle	42,000 lbs	980,619	568,728	133,274	62,795	29,587
Hams	36,000 lbs	---	---	---	8	---
Turkeys	36,000 lbs	---	---	144	118	---
Boneless Beef	30,000 lbs	---	---	41	---	---
Broilers	30,000 lbs	7,794	---	---	---	---
Lumber	100,000 bd. ft.	649,478	560,498	486,691	350,530	256,252
Stud Lumber	100,000 bd. ft.	5,059	9,365	687	---	---
Grain Sorghums	400,000 lbs	---	---	---	11	670
Copper	12,500 lbs	---	---	---	55	1,550
British Pound	25,000	513,682	240,099	78,701	33,465	15,015
Canadian Dollar	100,000	399,885	207,654	161,139	17,068	2,677
Deutschemark	125,000	450,856	400,569	134,368	44,887	54,793
Japanese Yen	12,500,000	329,645	361,731	82,261	1,449	1,790
Mexican Peso	1,000,000	29,982	17,844	17,029	51,439	48,547
Swiss Franc	125,000	493,944	321,451	106,968	37,246	69,933
Dutch Guilder	125,000	22	3,585	2,812	392	927
U.S. Silver Coins	$ 5,000	59	275	371	257	34,757
French Franc	250,000	406	4,449	3,150	5,968	6,238
Gold	100 ozs	3,558,960	2,812,870	908,180	340,921	406,968
T-Bills (90 Day)	$1,000,000	1,930,482	768,980	321,703	110,223	---
T-Bills (1 yr)	$ 250,000	11,769	5,564	---	---	---
T-Notes (4 yr)	$ 100,000	11,072	---	---	---	---
CHI. MER.		19,930,798	15,153,952	7,878,247	6,200,665	6,401,956
Copper	25,000 lbs	2,301,033	1,408,688	1,070,210	1,243,011	494,019
Zinc	60,000 lbs	75	677	---	---	---
Silver	5,000 lbs	4,080,619	3,822,085	3,540,047	3,741,908	2,902,315
Gold	100 ozs	6,541,893	3,742,378	981,551	479,363	393,517
Mercury	10 flasks	---	---	---	---	11
Rubber	22,040 lbs	---	---	---	---	75
T-Bills (90 Day)	$1,000,000	27,860	---	---	---	---
GNMA Mrtges, CD	$ 100,000	873	---	---	---	---
COMM. EXCH. INC.		12,952,353	8,973,828	5,591,808	5,464,282	3,789,937
GNMA Mrtges, CD#	$ 100,000	52,493	16,671	---	---	---
T-Bills (90 Day)	$1,000,000	4,334	---	---	---	---
T-Bonds	$ 100,000	7,492	---	---	---	---
AMEX. COMM. EXCH.		64,319	16,671	---	---	---

Alcohol

Salient Statistics of Alcohol in the United States In Millions of Gallons[3]

Fiscal Year Beginning July 1	Ethyl Alcohol								Denatured Alcohol[2]				Prod. of Refined Methanol[4] (Synthetic & Natural)
		Withdrawals							Completely	Specially			
			Tax-Free										
	Production[5]	Tax-Paid[5] 190° & Over	For Denaturation	For Use of U.S.	Other[1]	Total	Total Withdrawn	Stocks at End of Fiscal Year	Production	Production	Withdrawals	Stocks (June 30)	
1967–8	684.3	56.5	542.6	.9	30.7	574.2	630.7	215.7	2.0	290.9	291.2	3.3	516.9
1968–9	744.5	62.3	608.9	.6	39.6	649.2	711.5	181.6	2.2	324.6	325.9	2.1	574.9
1969–0	691.8	62.9	543.0	.8	18.4	562.2	625.1	184.0	2.1	289.4	288.6	2.9	633.4
1970–1	570.0	63.3	470.6	.6	12.9	484.1	547.4	150.1	2.3	252.6	253.5	2.3	742.7
1971–2	569.0	68.0	435.4	.8	45.4	481.5	549.5	100.0	2.1	234.5	234.1	2.8	745.5
1972–3	679.7	67.8	460.9	.9	115.9	577.6	645.4	89.6	2.3	246.7	247.2	2.8	974.6
1973–4	647.4	72.4	469.7	.6	88.1	563.3	635.7	82.2	2.2	256.7	257.2	2.3	1,064
1974–5	581.0	72.7	403.3	.3	36.4	440.0	512.7	116.7	1.3	219.3	220.1	2.0	1,036
1975–6	503.4	78.5	419.3	.5	13.7	433.6	512.1	93.1	1.1	221.1	220.5	2.7	779.6
1976–7								79.0				2.8	940.1
1977–8								76.2				3.0	971.8
1978–9								66.7				2.4	970.4
1979–0													

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[1] Represents withdrawals for hospital, scientific and educational use. for exports, etc. [2] At denaturing plants. [3] Ethyl alcohol in proof gallons; denatured alcohol in wine gallons. [4] On a CALENDAR YEAR basis. [5] Represents alcohol and spirits of 190° of proof and over. *Source: Alcohol and Tobacco Division*

Average Wholesale Price Index of Ethyl Alcohol, in N.Y. Dec. 1973 = 100[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
1968	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
1969	54.5	54.5	54.5	54.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	55.8
1970	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5
1971	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	55.0	55.0	55.0	56.1
1972	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
1973	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
1974[1]	113.1	115.4	123.6	129.9	133.0	148.9	152.5	154.2	167.5	180.9	189.4	193.9	150.2
1975	201.6	206.3	219.2	219.2	217.8	218.0	216.8	214.6	215.8	217.1	218.2	216.6	215.1
1976	217.2	230.2	233.0	233.6	233.0	233.0	233.0	232.5	233.0	233.0	232.3	233.0	231.4
1977	231.6	233.0	232.3	232.3	232.3	233.0	238.8	244.9	243.6	243.1	242.5	243.9	237.6
1978	243.9	231.0	230.3	226.4	226.4	225.8	226.4	226.6	226.4	218.8	226.4	226.5	227.9
1979	234.8	N.A.	239.2	243.6	248.1	249.4	260.1	265.4	277.6	284.3	291.5	292.2	262.4
1980	311.7												

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[1] Data prior to 1974 are for specially denatured No. 1. 190 proof. tank carlots, f.o.b. eastern works; freight prepared in CENTS PER GALLON. *Source: Bureau of Labor Statistics* (0614-0341.04)

U.S. Production of Ethyl Alcohol[1] & Spirits In Millions of Tax Gallons[2]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	57.1	49.1	56.3	52.6	63.1	57.2	54.1	55.2	57.4	66.3	59.5	57.2	685.1
1968	56.8	52.2	55.2	57.6	58.2	54.6	59.7	56.5	60.0	70.8	60.3	66.2	708.1
1969	67.5	64.4	65.3	56.4	59.3	58.1	61.9	62.8	62.2	75.9	50.5	53.2	737.7
1970	42.2	48.5	59.8	57.7	57.8	[illegible]	56.9	46.9	58.3	54.8	41.4	48.3	631.5
1971	45.0	41.5	41.7	44.4	43.4	[illegible]	43.7	43.6	46.9	56.4	51.6	46.9	552.9
1972	38.0	43.8	46.1	[illegible]	[illegible]	56.7	64.7	57.7	64.0	59.3	51.5	53.4	621.3
1973	57.1	52.5	57.1	58.4	[illegible]	[illegible]	54.2	57.4	59.9	62.7	62.2	56.4	692.1
1974	49.9	49.9	45.3	[illegible]	52.8	40.8	45.3	52.4	59.5	61.0	48.6	54.8	618.2
1975	52.0	40.4	44.5	41.4	39.8	39.1	41.3	40.1	39.6	53.8	46.4	47.9	526.4
1976	41.6	36.2	44.0	39.3	36.0	37.3	45.2	46.0	43.3	40.1	42.8	47.7	499.6
1977	36.5	37.7	42.8	39.2	43.5	43.2	40.3	40.9	41.0	44.6	48.8	39.7	498.3
1978	35.8	41.1	50.4	42.2	31.3	48.7	42.5	45.4	50.5	40.3	38.0	40.7	507.0
1979	42.8	41.3	49.3	47.3	42.9	48.2	43.8	46.0	53.7	49.4	51.0		
1980													

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[1] At industrial alcohol plants. [2] A "tax gallon" is the alcoholic equivalent of a U.S. gallon at 60 degrees Fahrenheit, containing 50% of ethyl alcohol by volume. *Source: Internal Revenue Service*

Aluminum

Apparent consumption of aluminum metal in the U.S. during 1979 increased 2 percent to a record 6.2 million tons. Of aluminum consuming industries in 1979, building accounted for about 24 percent; packaging, 23 percent; transportation, 22 percent; electrical, 11 percent; consumer durables, 8 percent; and other uses, 12 percent.

Despite continuing problems of availability and rising costs of electric power for aluminum production, output of primary metal in the U.S. in 1979 set a record of about 5.0 million tons as producers restarted idle potlines and plants in Texas and Indiana, and began production at a new potline in Kentucky. Washington, Oregon and Montana accounted for 32 percent and Gulf Coast states for 16 percent of U.S. production.

On July 1, 1979, the Bonneville Power Administration announced a 25 percent cutback of power availability due to a lower-than-normal stream flow. Later, the BPA offered temporary advanced allocations of power in anticipation of improved stream flow conditions. On November 9, Reynolds Metals Company cut production at its primary aluminum smelters at Troutdale, Oregon, and Longview, Washington, by 12 percent as a result of the 25 percent power cutback by the BPA. On December 20, the Aluminum Company of America reportedly shut down a 42,000-ton-per-year potline at its Wenachee, Washington, primary aluminum smelter and half of a 23,000-ton per year potline at its Vancouver, Washington, smelter as a result of a power shortage in the Pacific Northwest. Also in December, Kaiser Aluminum & Chemical Corp. reduced overall power at its Mead and Tacoma, Washington, smelters, and shut down one of eight 27,500-ton potlines at Mead.

Long term demand for aluminum in the U.S. is expected to increase, especially in the automotive industry where aluminum is used to reduce weight and improve energy efficiency. From a 1978 base year, domestic demand for aluminum metal is projected to increase at a rate of 6.9 percent a year through 1985, according to the Bureau of Mines. At the end of 1979, demand for aluminum appeared to be in balance with aluminum supply. Inventories at the yearend were estimated at about 2.5 million tons, vs. over 2.7 million at the end of 1978.

Announced expansions of domestic production capacity for primary metal of only 1.4 percent a year to 1983 foreshadows a shift toward greater reliance on imported metal supply and possibly an increase in recycling old scrap, which now accounts for about 40 percent of recycled aluminum.

Bauxite is the raw material from which aluminum is produced, and imports of bauxite supply about 93 percent of apparent U.S. consumption of bauxite and alumina.

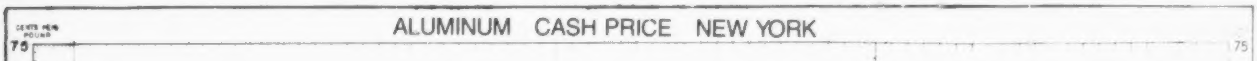
Effective December 20, 1979, the Bonneville Power Administration received interim approval to increase the charge per kilowatt hour to aluminum producers from about 3 mils to about 6 mils. This raised the overall power costs to the industry in the Pacific Northwest to a range of 6 mils to 10 mils.

Prices for primary aluminum at the end of 1979 varied from 66.0 cents per pound to 66.5 cents per pound, compared with a range of 55.5 to 57.5 cents at the beginning of the year.

Substitutes for aluminum include copper for many applications, and magnesium for many structural uses in transportation, though usually at higher costs. Steel may also be substituted for aluminum in many applications where weight saving is not important.

Futures Markets

Aluminum futures are traded on the London Metal Exchange (See special article on the LME.)



ALUMINUM CASH PRICE NEW YORK

ALUMINUM

World Production of Aluminum In Thousands of Short Tons

Year	Australia	Austria	Canada	France	West Germany	Hungary	Italy	Japan	Norway	Spain	Switzerland	Cameroon	United Kingdom	United States	U.S.S.R.	World Total
1970		99	1,072	420	341	73	161	808	576	132	101	58	44	3,976	1,212	10,641
1971	247	100	1,121	423	471	74	132	984	584	139	104	56	131	3,925	1,300	11,373
1972	227	93	1,013	434	490	75	134	1,118	604	154	92	51	189	4,122	1,380	12,115
1973	228	98	1,038	396	587	75	203	1,209	684	179	94	49	277	4,529	1,500	13,364
1974	242	101	1,125	434	759	76	238	1,232	731	211	96	52	323	4,903	1,580	14,516
1975	236	98	978	422	747	77	210	1,117	656	232	87	57	340	3,879	1,690	13,387
1976	256	98	698	424	768	78	228	1,013	658	232	86	64	369	4,251	1,760	13,771
1977[1]	273	101	1,060	429	818	79	287	1,310	693	233	88	61	385	4,539	1,810	15,049
1978[2]			1,155	431	815			1,166					382	4,804	1,840	15,489
1979[2]			930	435	815			1,100					390	5,015	2,000	16,000

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

U.S. Aluminum Inventories, Total (Ingot, Mill Prod. & Scrap) In Million Pounds

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1969	3,725	3,749	3,719	3,745	3,773	3,768	3,742	3,826	3,826	3,781	3,781	3,770
1970	3,785	3,815	3,865	3,839	3,899	3,942	3,932	4,040	4,101	4,102	4,144	4,279
1971	4,387	4,467	4,493	4,475	4,441	4,271	4,463	4,669	4,743	4,771	4,878	4,990
1972	5,026	5,050	5,038	5,003	4,984	4,919	4,869	4,924	4,896	4,868	4,866	4,856
1973	4,861	4,840	4,764	4,697	4,623	4,559	4,609	4,576	4,545	4,504	4,422	4,375
1974	4,366	4,276	4,250	4,182	4,233	4,291	4,329	4,428	4,533	4,559	4,650	4,869
1975	5,156	5,535	5,589	5,866	5,940	6,092	6,086	6,070	6,013	6,014	5,962	6,007
1976	5,999	5,968	5,994	5,888	5,813	5,673	5,543	5,596	5,542	5,523	5,589	5,689
1977[1]	5,631	5,804	5,874	5,648	5,579	5,535	5,452	5,591	5,644	5,606	5,685	5,811
1978[1]	5,706	5,811	5,802	5,732	5,751	5,697	5,666	5,705	5,588	5,612	5,577	5,550
1979[1]	5,496	5,395	5,242	5,009	5,025	4,960	4,905	4,935	4,930	4,958	4,768	

[1] Preliminary. *Source: Bureau of Mines*

Aluminum Imports (General)—Metal & Alloys, Crude—into the U.S. In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1969	30.5	45.1	49.2	57.9	42.1	41.1	41.4	37.4	35.6	32.9	28.6	26.9	468.6
1970	35.3	40.4	33.3	32.6	31.9	30.4	31.8	21.7	20.0	23.7	21.1	28.1	350.2
1971	34.3	29.1	44.7	95.7	63.4	60.9	46.6	38.1	43.7	31.5	24.0	48.5	560.4
1972	46.8	43.9	70.0	55.0	73.4	66.3	44.8	39.2	52.2	47.0	53.3	54.5	646.4
1973	58.2	38.8	50.9	43.1	44.7	50.7	34.6	36.0	33.0	46.0	35.1	36.5	507.6
1974	30.5	34.7	48.6	41.1	44.1	38.2	36.6	51.0	41.5	53.1	47.4	42.3	509.0
1975	41.9	37.4	30.7	31.5	25.5	34.9	26.7	43.5	56.4	37.8	45.3	46.3	457.9
1976	36.1	47.0	50.7	71.7	68.8	70.9	33.2	68.6	27.9	34.2	33.6	25.9	568.7
1977	15.8	48.5	68.6	59.3	59.8	74.1	67.5	75.9	42.2	49.6	54.5	57.5	670.2
1978	53.0	64.0	74.4	58.2	89.9	83.5	66.9	50.7	51.3	86.9	43.1	35.0	756.9
1979	69.6	41.0	53.9	44.3	57.8	36.0	62.6	30.8	31.9	39.4	40.8	62.6	570.7

Source: Bureau of the Census

Aluminum Exports (Metal & Alloys, Crude) from the U.S. In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1969	11.6	7.9	12.1	31.8	23.7	24.5	38.1	34.9	43.1	43.9	31.6	41.1	344.4
1970	49.5	50.2	43.1	36.0	41.5	41.1	35.2	14.1	26.9	29.9	15.9	28.0	408.5
1971	15.8	14.3	11.0	11.3	8.0	10.3	3.6	5.6	12.6	4.0	7.7	6.9	112.3
1972	13.4	3.5	6.7	6.4	7.5	8.4	7.7	7.3	9.1	14.2	10.0	14.0	108.3
1973	12.4	11.5	10.6	12.4	11.1	10.3	14.1	16.4	29.8	31.2	47.0	22.8	229.6
1974	22.0	20.9	30.4	22.8	17.7	13.6	15.0	14.4	12.3	16.7	9.2	12.8	207.8
1975	4.8	4.9	3.6	4.5	13.4	8.6	4.8	20.9	13.7	25.2	36.8	44.9	185.8
1976	31.3	4.1	25.8	14.6	7.2	9.7	10.5	9.8	6.2	7.5	13.1	12.7	152.4
1977	9.8	10.6	8.7	12.5	4.4	6.7	7.9	9.3	9.0	2.9	8.9	7.2	97.8
1978	3.7	5.7	6.1	4.2	7.0	9.3	8.5	11.0	15.9	17.7	23.1	14.3	126.6
1979	32.4	15.4	14.8	19.4	12.0	7.7	8.3	12.2	8.4	19.2	17.2	33.6	200.6

Source: Bureau of the Census

Salient Statistics of Aluminum in the U.S. In Thousands of Short Tons

Year	Production		Primary Sold[1]	Net Imports (Crude & Semicrude)	Recovery From Scrap		Total Apparent Consumption	Net Shipments[5] by Producers: Wrought Products				Castings			Total All Net Shipments
	Primary	Secondary			Old	New		Plate Sheet Foil	Rolled Structural Shapes[2]	Extruded Shapes[3]	All	Permanent Mold	Die	All	
1967	3,269	698	3,136	175	129	569	4,009	1,659	461	856	3,175	191	438	767	3,943
1968	3,255	817	3,403	443	155	662	4,663	1,957	468	936	3,585	192	489	794	4,379
1969	3,793	901	3,821	−11	148	753	4,710	2,143	482	991	3,833	217	514	849	4,682
1970	3,976	781	3,879	−142	146	636	4,519	2,124	380	841	3,507	175	471	753	4,260
1971	3,925	816	3,887	396	167	648	5,099	2,281	499	1,010	3,923	174	513	789	4,712
1972	4,122	946	5,802	465	250	876	4,926	2,994	690	1,188	5,047	210	596	928	5,974
1973	4,529	1,040	6,802	53	265	977	5,825	3,258	675	1,318	5,451	220	652	1,013	6,464
1974	4,903	993	6,406	105	304	978	5,428	3,187	696	1,192	5,233	189	544	880	6,113
1975	3,879	980	4,806	110	337	899	3,907	2,332	462	821	3,713	144	433	688	4,401
1976	4,251	1,155	6,175	265	409	1,062	5,083	3,178	493	1,071	4,858	189	605	923	5,780
1977[4]	4,539	1,271	6,546	425	531	1,074	5,492	3,423	468	1,198	5,210	220	652	1,004	6,214
1978[6]	4,804	1,323		560	575	1,098	6,044								
1979[6]	5,023			185	554	1,041	6,160								

[1] Or used by producers. Includes shipments to the Gov't. [2] Also rod, bar & wire. [3] Also rod, bar, tube, blooms & tubing. [4] Preliminary. [5] Consists of total shipments less shipments to other mills for further fabrication. [6] Estimate.
Source: Bureau of Mines

U.S. Foreign Trade in Aluminum and Products In Thousands of Short Tons

Year	Imports for Consumption: Crude and Semicrude				Value (Thousand Dollars)			Exports: Crude and Semicrude					Manufactures		Value Grand Total Exports $ Ths.
	Metal & Alloys, Crude	Scrap	Plates, Sheets, Etc.	Total (All)	Crude & Semi	Manufactures	Grand Total	Ingots, Slabs, & Crude	Scrap	Plates, Sheets, Bars, Etc.	Total (All)	Total Value $1,000	Wire & Cable	Total (All)	
1967	449.7	30.5	38.8	538.5	245,278	4,602	249,880	209.0	54.5	96.3	366.2	207,101	11.1	15,950	223,051
1968	685.7	37.5	42.2	793.1	358,400	4,501	362,901	180.3	49.4	114.1	350.8	195,629	11.6	18,707	214,336
1969	468.2	28.9	37.5	557.7	267,756	4,813	272,569	344.4	86.3	135.7	574.9	323,755	10.1	17,933	341,688
1970	350.1	36.8	59.1	467.7	233,461	15,357	248,818	408.5	57.1	137.8	611.6	361,062	18.1	27,835	390,539
1971	554.2	62.8	55.8	689.8	326,968	16,478	343,446	112.3	30.7	141.1	293.5	197,550	15.5	23,675	221,225
1972	661.0	52.3	59.6	794.5	374,734	15,775	390,509	108.3	66.0	145.0	329.1	209,240	10.2	22,988	232,228
1973	508.0	46.8	42.3	613.6	285,218	15,838	301,056	229.6	115.1	202.4	561.9	370,370	9.2	31,366	401,736
1974	508.6	74.7	45.1	628.4	402,537	19,326	421,863	207.8	80.2	216.0	524.0	482,240	12.3	33,410	535,356
1975	434.1	54.8	48.8	550.3	409,538	9,040	418,578	185.9	66.9	171.0	439.8	436,323	24.4	39,480	501,271
1976	575.4	85.7	67.0	748.6	582,048	16,190	598,238	152.4	109.0	222.4	483.7	495,896	26.4	49,644	571,838
1977[1]	670.2	89.9	57.7	835.6	798,505	19,107	817,612	97.8	101.7	211.5	411.0	504,029	23.3	40,068	571,082
1978[2]	757.1	92.2	230.5	1,080				126.6	194.5	196.6	517.7				
1979[2]	570.6	68.3	201.0	839.9				200.7	307.1	257.0	764.8				
1980															

[1] Preliminary. [2] Estimate. *Source: Department of Commerce*

U.S. Production of Primary Aluminum (Domestic & Foreign Ores) In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total[1]
1967	265.2	243.6	274.4	268.4	278.9	270.1	277.0	277.6	270.4	283.8	277.2	282.7	3,269
1968	285.3	267.1	288.3	280.3	289.0	218.5	226.0	246.5	269.0	293.4	291.6	300.1	3,255
1969	313.6	286.1	317.2	309.4	323.8	313.0	321.2	318.0	313.0	326.9	318.7	332.2	3,793
1970	334.6	305.5	338.8	329.0	341.4	326.8	339.3	330.9	323.0	334.6	327.0	345.2	3,976
1971	331.9	304.3	338.8	327.1	341.8	325.0	329.5	333.4	325.8	329.0	314.2	324.5	3,925
1972	326	314	336	331	346	340	348	349	347	363	357	364	4,122
1973	372	351	389	371	380	373	382	374	372	388	379	399	4,529
1974	404	376	420	410	422	405	416	411	401	417	405	416	4,903
1975	394	324	347	326	327	302	310	309	300	311	310	319	3,879
1976	322	303	326	325	350	345	365	371	366	391	387	400	4,251
1977	399	352	379	371	382	369	381	376	367	386	380	395	4,539
1978	400	366	395	387	405	395	408	410	399	416	403	418	4,804
1979	418	379	419	402	423	410	428	430	419	435	423	435	5,023
1980													

[1] Final annual totals. *Source: Bureau of Mines*

ALUMINUM

Aluminum Products (Ingot & Mill Products) Shipments[1] in the U.S. In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	712.9	738.9	767.0	729.2	753.7	748.3	659.2	743.4	745.8	760.8	730.6	747.2	8,837
1968	813.6	788.3	921.9	950.5	1,058	683.3	679.4	731.5	765.7	827.1	799.2	843.8	9,862
1969	870.4	878.8	898.5	887.3	912.5	913.6	881.6	860.7	925.7	933.0	846.4	908.9	10,718
1970	846.1	833.9	935.6	857.0	872.2	896.0	766.3	785.8	824.5	808.9	713.4	812.8	9,953
1971	774.0	774.9	952.6	1,078	1,130	752.1	690.6	813.0	877.1	781.6	791.2	851.1	10,266
1972	891.6	914.9	1,024	951.5	1,073	1,068	887.8	1,007	983.5	1,014	1,041	1,024	11,880
1973	1,169	1,092	1,271	1,199	1,276	1,254	1,129	1,216	1,198	1,343	1,219	1,203	14,568
1974	1,300	1,203	1,307	1,336	1,256	1,225	1,103	1,105	1,025	1,106	890.3	782.4	13,639
1975	769.9	735.5	675.8	736.6	747.9	832.4	825.4	866.6	899.9	921.4	824.6	968.4	9,804
1976	902.5	945.7	1,135	1,059	1,203	1,169	942.1	1,173	1,007	1,016	960.9	1,056	12,568
1977[2]	885.8	976.9	1,432	1,205	1,175	1,208	975.2	1,084	1,050	1,055	1,001	1,146	12,808
1978[2]	932	1,026	1,267	1,079	1,222	1,256	1,113	1,185	1,174	1,340	1,179	1,204	13,982
1979[2]	1,270	1,147	1,374	1,129	1,252	1,191	1,123	1,180	1,074	1,183			
1980													

[1] Mill products & pig & ingot (net shipments). [2] Preliminary. *Source: Bureau of the Census*

Average Price of Aluminum (Virgin 99.5% Unalloyed Ingot) at N.Y. In Cents per Pound, Carload Lots

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	24.74	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	24.98
1968	25.00	25.00	25.00	25.00	25.00	25.85	26.00	26.00	26.00	26.00	26.00	26.00	25.57
1969	26.55	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.65	28.00	28.00	27.18
1970	28.00	28.00	28.00	28.59	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	28.72
1971	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00
1972	29.00	29.00	29.00	29.00	26.36	25.00	25.00	25.00	25.00	25.00	25.00	25.00	26.45
1973	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.40	26.25	27.25	25.33
1974	29.00	29.00	29.24	31.50	31.50	33.40	33.50	35.94	38.70	39.00	39.00	39.00	34.06
1975	39.00	39.00	39.00	39.00	39.00	39.00	39.00	40.42	41.00	41.00	41.00	41.00	39.79
1976	41.00	41.00	41.00	41.48	42.50	44.00	44.00	46.91	48.00	48.00	48.00	48.00	44.49
1977	48.00	48.00	48.74	51.00	51.00	51.36	52.90	53.00	53.00	53.00	53.00	53.00	51.33
1978	53.00	53.00	53.00	53.00	54.23	55.25	55.25	55.25	55.25	55.25	55.25	55.90	54.44
1979	56.64	58.00	58.00	59.50	59.50	59.50	60.75	60.75	61.18	65.82	66.25	66.25	61.01
1980	66.25	66.86	68.40	70.52									
1981													

Source: American Metal Market

Average Price of Cast Aluminum Scrap (Crank Cases)[1] in New York In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	11.25	11.25	9.25	9.25	8.90	8.31	8.25	8.25	7.48	7.25	7.46	7.85	8.40
1968	8.50	8.76	9.50	9.29	8.50	8.23	8.00	8.00	8.00	8.00	8.00	8.00	8.41
1969	8.27	9.58	11.00	11.90	12.50	12.50	12.50	12.50	12.14	11.91	11.50	11.50	11.48
1970	11.24	11.00	11.00	11.00	10.98	10.48	9.61	9.50	9.50	8.72	7.25	7.25	9.79
1971	7.48	7.75	7.75	7.75	7.75	7.70	7.25	7.25	6.89	5.75	5.43	5.25	7.00
1972	5.25	5.25	5.64	5.75	5.68	5.50	5.50	5.50	5.50	5.50	5.50	5.70	5.52
1973	6.27	7.00	7.41	8.50	8.50	8.50	8.50	8.50	9.50	9.70	10.00	10.53	8.58
1974	11.61	13.28	14.90	16.30	15.73	14.50	14.50	14.50	12.07	9.72	8.71	7.50	12.78
1975	7.30	7.00	7.00	7.25	7.25	7.25	7.25	7.92	9.86	9.05	9.20	9.75	8.01
1976	9.75	10.17	11.90	14.09	14.10	14.00	15.50	16.45	16.74	15.02	14.50	13.60	13.81
1977	13.50	15.65	18.00	18.00	17.86	16.59	17.50	17.37	15.50	15.00	15.45	16.00	16.37
1978	16.71	18.50	19.11	22.10	22.50	22.50	22.50	22.50	22.50	22.50	22.50	22.75	21.39
1979	23.64	25.34	28.05	32.08	35.55	35.65	33.65	30.90	29.55	31.59	31.50	31.50	30.75
1980	34.36	37.90	43.85	37.47									
1981													

[1] Dealers' buying prices. *Source: American Metal Market*

Antimony

The pattern of antimony consumption in the United States during 1979 continued unchanged from that of the past several years. The use of antimony metal as a hardening agent in battery grid alloys declined for the seventh consecutive year, while antimony trioxide consumption increased for the fifth consecutive year. Antimony trioxide is used extensively in plastics, metalware, ceramic enamels; and large and increasing amounts are used in flame retardants for fabrics. A decline in the use of metal for batteries is expected to be more than offset by increased use of oxide as a flame retardant, and total U.S. demand for antimony is projected to increase at an annual rate of 2.2 percent through 1985. However, reported consumption of primary and secondary antimony in 1979 was 4 percent smaller than in 1978.

The principal uses of antimony in the United States, in 1979, were: flame retardants, 51 percent; transportation, including batteries, 17 percent; ceramics and glass, 13 percent; chemicals, 12 percent; and other uses, 7 percent.

Approximately 69 percent of the 1979 domestic consumption of antimony was derived from scrap, mostly from battery plates. Domestic producers supply less than 10 percent of the primary demand for antimony, indicating continued heavy reliance on imports of both metal and concentrates. The People's Republic of China is a major import source for antimony metal, accounting for 40 percent in 1979, with Bolivia and Mexico together providing another 40 percent. The Republic of South Africa is the most important import source for antimony oxide, accounting for about 50 percent of 1979 imports. About 80 percent of ore and concentrate imports were accounted for by Bolivia, Canada, Mexico, and the Republic of South Africa.

Industrial stocks of antimony at the end of 1979 totaled about 9,000 tons, 800 tons higher than at the end of 1978. However, the U.S. government stockpile contained 40,727 tons as of November 30, 1979, compared with a stockpile goal of 20,130 tons.

There are substitutes for antimony. Combinations of calcium, strontium, tin, copper, selenium, sulfur, and cadmium can be used as substitutes in the hardening of lead. Compounds produced from elements such as boron, bromine, aluminum, and phosphorus, among others, can replace antimony as a flame retardant.

The price of antimony in the United States continued steady in 1979 at $2.00 per pound throughout the year versus an average price of $1.75 per pound in 1978.

World Production of Antimony (Content of Ore) In Short Tons

Year	Algeria	Bolivia (Exports)	Canada[2]	China[1]	Czechoslovakia	Italy	Morocco	Mexico[2]	Peru[2]	Turkey	South Africa	United States	U.S.S.R.	Yugoslavia[4]	World Total[1]
1967	112	12,432	634	13,200	550	405	1,753	4,121	818	2,244	13,666	892	7,100	2,533	63,565
1968	60	12,276	580	13,000	660	865	1,336	3,819	900	1,973	18,514	856	7,200	2,929	67,628
1969	65	14,484	410	13,000	660	1,415	1,551	3,555	676	3,495	20,080	938	7,300	2,278	73,001
1970	66	12,970	363	13,000	660	1,432	2,008	4,925	1,286	3,053	19,147	1,130	7,400	3,197	77,124
1971	66	12,861	162	13,000	660	1,295	2,174	3,705	757	3,124	15,704	1,025	7,600	2,207	70,653
1972	66	14,703	340	13,000	660	1,324	917	3,280	826	2,982	16,062	489	7,700	2,177	73,986
1973	66	16,461	830	13,000	770	1,497	1,364	2,632	756	3,696	17,306	545	7,800	2,265	76,920
1974	66	14,396	1,380	13,000	830	1,297	2,029	2,653	751	6,482	16,722	661	8,000	2,434	79,232
1975	66	13,136	2,020	13,000	770	1,113	1,160	3,458	305	4,010	17,553	886	8,300	2,406	77,114
1976	66	16,873	2,535	13,000	770	1,112	1,560	2,806	665	4,771	11,890	283	8,500	2,228	76,576
1977[3]	63	16,707	2,340	13,000	830	909	1,553	3,000	670	4,900	12,930	610	8,700	2,300	78,977
1978[1]		15,000						3,000			10,000	798		3,000	75,798
1979[1]		16,000						3,000			12,000	750		2,500	79,250

[1] Estimated. [2] Includes antimony content of miscellaneous smelter products. [3] Preliminary. [4] Metal.
Source: Bureau of Mines

Average Price of American Antimony R. M. M.[2] Brand (N.Y. Equivalent[1]—in Bulk) In Cents Per Pound

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1968	45.75	45.75	45.75	45.75	45.75	45.75	45.75	45.75	45.75	45.75	45.75	45.75	45.75
1969	45.75	45.75	48.75	50.25	51.20	54.00	55.25	55.25	63.75	65.75	65.75	85.56	57.52
1970	105.75	105.75	164.19	178.00	178.00	178.00	178.00	172.29	144.38	122.73	98.00	98.00	143.59
1971	98.00	98.00	82.48	81.00	70.55	70.00	60.57	59.00	59.00	59.00	59.00	59.00	71.30
1972	59.00	59.00	59.00	59.00	59.00	59.00	59.00	59.00	59.00	59.00	59.00	59.00	59.00
1973	59.00	60.26	62.00	65.14	68.00	68.00	68.00	68.00	68.00	68.00	77.00	90.00	68.45
1974	94.00	98.74	104.00	142.00	177.00	213.50	225.00	225.00	225.00	225.00	225.00	225.00	181.60
1975	213.18	199.00	199.00	199.00	188.71	160.00	160.00	160.00	160.00	160.00	160.00	160.00	176.57
1976	158.00	158.00	158.00	158.00	158.00	158.00	158.00	158.00	166.90	175.00	175.00	175.00	162.99
1977	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00
1978	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00
1979[2]	177.00	177.00	190.00	201.00	201.00	201.00	201.00	201.00	201.00	201.00	201.00	201.00	196.08
1980	201.00	201.00	201.00	201.00									

[1] Of F.O.B. Laredo, Texas Base. [2] Domestic refined in alloy beginning Jan. 1979. *Source: American Metal Market*

ANTIMONY

Salient Statistics of Antimony in the United States In Short Tons

	Production				Imports[5]				Industry Stocks, Dec. 31[2]					
		Primary[2]			Ore									
Year	Ores (Gross Weight)	Mine	Smelter	Secondary (Alloys)[2]	Gross Weight	Sb Content	Metal[2]	Exports[3]	Ores & Concentrates	Metallic	Oxide	Sulfide	Total[6]	Prod. of Antimonial Lead[7]
1967	5,402	892	12,466	23,664	22,647	10,517	2,654	82	2,469	1,719	2,704	80	8,350	1,717
1968	5,263	856	12,489	23,699	21,677	10,614	2,693	109	2,791	1,323	1,921	127	6,626	2,007
1969	5,707	938	13,203	23,840	24,158	12,098	980	207	2,227	1,273	2,053	108	6,339	2,082
1970	6,681	1,130	13,381	21,424	34,415	13,820	1,290	543	2,973	1,598	2,932	39	8,847	1,184
1971	4,721	1,025	11,374	20,917	22,102	9,619	1,638	1,023	3,582	1,367	2,697	22	8,637	1,191
1972	2,072	489	13,344	22,428	33,542	17,212	2,302	121	3,562	1,332	3,179	182	8,622	1,050
1973	2,468	545	17,206	24,062	33,869	16,679	692	515	5,585	1,540	2,074	31	10,078	1,167
1974	3,217	661	16,657	23,570	31,330	14,655	2,203	871	6,275	809	3,732	35	11,694	1,097
1975	4,505	886	12,189	17,964	20,736	8,320	2,112	340	8,364	1,380	3,886	32	14,957	567
1976	1,111	283	14,618	19,799	20,945	10,023	2,083	341	7,899	1,662	4,560	31	15,070	730
1977[1]	3,496	610	12,827	30,601	8,042	3,438	1,722	742	1,869	1,359	4,576	24	8,591	900
1978[4]		798	14,110	26,456		4,494	4,127	556	1,610	1,119	4,906	19	8,201	
1979[1]		1,037	14,265	15,130		7,735	3,023	485	1,757	1,314	3,255	17	7,121	
1980														

[1] Preliminary [2] Antimony content. [3] Antimony ore, metal & compounds. [4] Estimate. [5] Imports for consumption. [6] Including primary antimony residues & slag. *Source: Bureau of Mines*

Industrial Consumption of Primary Antimony in the United States In Short Tons (Antimony Content)

	Metal Products						Non-Metal Products							
									Non Metal					
Year	Antimonial Lead	Sheet & Pipe	Bearing Metal & Bearings	Cable Covering	Type Metal	Total All Metal Products	Fireworks	Flame Retardant	Ceramics & Glass	Rubber Pdt's.	Pigments	Plastics	Total[3]	Grand Total
1967	5,539	118	653	141	382	7,534	43	3,454	1,884	948	665	1,785	9,816	17,350
1968	6,817	105	755	178	423	9,043	37	2,774	2,037	440	859	2,318	9,477	18,520
1969	6,723	105	758	55	541	8,765	30	2,096	2,108	433	722	2,558	9,078	17,843
1970	5,246	77	481	38	220	6,574	17	1,774	1,820	519	610	1,667	7,363	13,937
1971	5,430	74	515	36	177	6,621	4	1,524	1,840	525	592	1,810	7,086	13,707
1972	6,149	108	559	19	142	7,382	4	2,280	1,695	587	644	2,391	8,742	16,124
1973	8,027	97	527	12	134	9,291	5	2,906	1,917	693	644	2,920	11,322	20,613
1974	7,251	69	476	16	107	8,429	11	4,383	1,384	664	460	1,431	5,229	18,041
1975	4,568	60	402	23	75	5,647	10	3,799	989	458	321	1,091	3,541	12,987
1976	3,861	74	405	19	79	4,900	12	5,552	1,260	578	415	1,277	4,885	15,337
1977[1]	2,936	56	265	16	83	3,847	9	5,765	1,547	473	400	1,503	4,211	13,823
1978[1]	2,832	39	279	21	81	3,736	5	5,854	1,259	254	410	1,456	3,562	13,152
1979[2]	946	31	185	16	9	1,621	3	3,885	878	39	239	719	1,896	10,916
1980														

[1] Preliminary. [2] Estimate. [3] Excludes flame-retardant. *Source: Bureau of Mines*

Antimony Imported[3] into the U.S. & Price Ranges

	Imported for Consumption										Antimony Ore		
		Needle or Liquidated Antimony		Antimony Metal			Antimony Oxide					Minimum	
Year	Antimony Content Value Ths. $	Gross Weight Sh. Tons	Value $ Ths.	Short Tons	Value $ Ths	Type Metal & Anti Lead Short Tons	Short Tons	Value $ Ths.	Foreign Metal ¢[2] Lb.	Antim. Trioxide ¢[2] Lb.	50–55% $ Short Ton	60% $ Short Ton	65% $ Short Ton
1967	4,090	29	18	2,654	1,849	N.A.	5,098	3,762	40–42½	47½	4.70–5.30	5.50–6.10	5.60–6.20
1968	4,145	60	42	2,693	2,037	N.A.	4,801	3,540	40–44	47½	5.00–5.40	5.80–5.85	5.90–5.95
1969	5,248	62	51	980	888		4,715	3,852	42½–300	47½–65½	5–5.40	7–25	
1970	12,733	18	54	1,290	3,493		4,256	10,023	80–400	97½–170		17–40	
1971	8,787	32	47	1,638	1,914		2,791	4,317	52–95	77–100		8.64–10	
1972	9,437	78	75	2,302	2,092		5,032	5,766	53½–57	69–77		7.60–10	
1973	10,903	51	73	692	745		4,651	6,095	55–135	69–105½		7.60–18.65	
1974	20,866	86	271	2,203	7,550		6,269	15,580				17–32	
1975	14,535	74	255	2,112	5,677		9,908	12,588	130–200	165–216		25½–27½	
1976	16,911	41	129	2,083	4,986		11,611	17,029					
1977[1]	6,832	259[4]	580	1,722	4,536		9,641	15,150	100–155	164–180		175–178	
1978[1]		40		4,127			8,854					175	
1979[1]		25		3,023			11,353					200.	

[1] Preliminary. [2] Duty paid delivery, N.Y. [3] Imports for consumption. *Source: Bureau of Mines*

Apples

World Production of Apples (Dessert & Cooking) In Thousands of Metric Tons[3]

Year	Mexico	Argentina	Australia	Spain	Belg-Lux.	Canada	France	Germany (West)	Italy	Japan	Netherlands	Turkey	United Kingdom	United States[2]	Yugoslavia	World Total
1967		24.6	19.6		15.7	26.2	81.4	119.3	101.4	59.1	25.6	33.6	15.9	129.2	15.8	758
1968		22.9	22.2		9.8	21.5	96.7	82.4	101.4	59.6	17.8	36.7	18.5	130.1	16.0	730
1969[3]		446	424		312	433	1,841	2,573	2,010	1,085	475	620	390	3,093	483	15,913
1970		424	443		252	406	1,876	1,777	2,062	1,021	450	748	491	2,902	277	14,952
1971		512	360		280	398	1,854	1,980	1,698	1,007	520	780	466	2,890	327	15,233
1972		233	456		265	393	1,719	1,239	1,873	959	400	850	350	2,668	309	13,849
1973		233	335	1,015	246	375	2,060	2,016	2,050	963	460	850	456	2,830	448	15,719
1974	213	786	368	1,038	209	406	1,610	1,281	1,886	850	385	950	340	2,964	370	14,895
1975	230	608	275	1,091	268	460	2,125	2,035	2,127	898	430	900	338	3,415	370	16,937
1976	329	576	275	1,008	241	409	1,710	1,487	2,143	879	380	1,000	338	2,936	486	15,616
1977[1]	276	820	302	672	120	411	1,242	1,176	1,828	959	315	900	234	3,027	381	13,941
1978[1]	342	810	245	967	273	455	1,848	1,783	1,874	904	490	900	342	3,462	381	15,987
1979[1]	390			1,012	276	425	1,803	1,600	1,965		460		327	3,491	360	
1980																

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[1] Preliminary. [2] Commercial crop. [3] Data prior to 1969 are in MILLIONS OF BOXES. (42 pound boxes.)

Source: Foreign Agricultural Service, U.S.D.A.

Salient Statistics of Apples[1] in the United States

	Production		Western Avg. Auction Price N.Y. $ Per Box		Utilization of Quantities Sold					Avg. Farm Price ¢ Per Lb.	Farm Value Million $	Foreign Trade[4]			
						Processed						Domestic Exports			Imports Fresh & Dried[5]
Year	Total	Having Value	Golden Delicious	Red Rome	Fresh	Canned	Dried	Frozen	Other[3]			Fresh	Dried[5]	Canned[5]	
	Millions of Pounds											Million Bushels			
1967	5,436	5,406	6.02	3.95	3,178	1,107	160	258	703	5.57	300.9	2.9	.2	—	2.7
1968	5,469	5,446	6.10	5.12	3,193	1,175	174	228	676	6.11	332.7	1.6	.2	—	2.6
1969	6,820	6,709	4.66	3.14	3,701	1,400	283	247	1,080	4.06	272.3	2.3	.2	—	1.9
1970	6,398	6,258	5.48	2.76	3,532	1,159	190	203	1,176	4.54	283.9	2.1	.2	—	2.1
1971	6,373	6,083	5.76	4.37	3,484	1,094	96	191	1,219	4.92	299.2	2.5	.1	—	1.8
1972	5,879	5,868	6.36	5.04	3,342	977	149	235	1,165	6.43	377.5	3.1	.3	—	2.3
1973	6,265	6,252	7.76	5.00	3,539	1,255	248	259	950	8.80	549.0	3.7	.3	—	1.9
1974	6,580	6,530	8.81	7.04	3,691	1,226	197	182	1,235	8.40	551.6	4.9	.2	—	1.6
1975	7,530	7,103	8.22	5.16	4,357	1,027	230	207	1,283	6.50	460.9	4.7	.2	—	2.6
1976	6,473	6,468	7.57	3.67	3,917	920	229	220	1,182	9.10	586.6	5.7	.2	—	2.6
1977	6,673	6,643	8.76	7.28	3,794	1,075	226	161	1,388	10.50	698.9	6.5	.4	—	2.9
1978[2]	7,607	7,580	9.77	6.00	4,236	1,228	243	207	1,667	10.40	783.1				
1979[2]	7,767	7,600								10.70	825.5				
1980															

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[1] Commercial crop. [2] Preliminary. [3] Mostly crushed for vinegar, cider, & juice. [4] Year beginning July. [5] In terms of fresh.

Source: Statistical Reporting Service, U.S.D.A.

Wholesale Price of Apples (Delicious) in the United States In Dollars Per Box

Year	Jan.	Feb	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov.	Dec	Average
1967	6.242	7.007	6.242	6.879	7.038	6.614	6.289	N.A.	N.A.	5.798	5.576	6.049	6.373
1968	6.092	6.500	6.555	7.711	6.880	N.A.	N.A.	N.A.	N.A.	7.245	8.175	6.959	7.015
1969	7.666	8.282	6.929	7.347	6.925	N.A.	N.A.	N.A.	N.A.	4.049	4.318	4.920	6.305
1970	3.592	4.517	3.802	4.247	4.087	N.A.	N.A.	N.A.	N.A.	6.332	6.414	7.967	5.120
1971	N.A.	6.347	N.A.	6.793	6.614	6.873	N.A.	N.A.	N.A.	6.360	8.100	6.885	6.853
1972	6.045	6.393	5.956	6.164	5.903	5.748	N.A.	N.A.	N.A.	7.350	8.121	7.560	6.582
1973	7.300	6.490	7.773	8.687	8.333	10.387	N.A.	N.A.	N.A.	6.869	8.125	7.868	7.931
1974	7.110	7.370	6.066	6.650	8.500	N.A.	N.A.	N.A.	8.213	9.793	N.A.	8.320	7.753
1975	8.193	9.500	10.000	9.580	11.783	14.081	N.A.	N.A.	N.A.	7.261	7.272	7.440	9.457
1976	7.217	8.437	8.250	8.750	7.752	8.070	N.A.	N.A.	N.A.	9.610	9.008	9.785	8.542
1977	N.A.	10.900	10.030	9.794	9.725	9.935	N.A.	N.A.	N.A.	9.960	9.000	8.020	9.417
1978	11.183	11.280	11.305	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	21.612	14.000	13.876
1979	13.500	14.000	14.000	14.500	13.500	13.750	N.A.	N.A.	N.A.	12.750	14.500	15.250	13.972
1980	15.750	15.667											
1981													

Source: Bureau of Labor Statistics (0111-0215.01)

Arsenic

Arsenic occurs as a constituent of certain complex ores valued mainly for copper, lead, zinc, gold, and silver. Hence, its production potential depends largely on the metallurgical processing of these ores. U.S. production and shipments in 1979 of both crude arsenic trioxide and arsenic metal were from one plant in Tacoma, Washington. There is no arsenic recovered from scrap sources, and a high percentage of domestic demand for both raw materials and refined products is met by foreign sources. The major import sources are Mexico, Sweden, and France.

Estimated U.S. distribution of arsenic in 1979 by major use was as follows: the manufacture of agricultural chemicals (pesticides, herbicides, cotton dessicants and defoliants, and soil sterilizers), 70 percent; industrial inorganic chemicals (wood preservatives and mineral flotations reagents), 20 percent; glass and glassware, 5 percent; nonferrous lead and copper alloys, 3 percent; other uses, 2 percent. The control of arsenic, as one of the contaminants in many smelter stack gases, is a major pollution problem. The toxic properties of arsenic compounds constitute a hazard to humans, livestock, and air/water supplies, and hence are limiting factors in usage.

The National Interim Primary Drinking Water Act of 1975 became effective for arsenic in June 1977. One of the provisions of this act sets the maximum contaminant level for inorganic arsenic at 50 micrograms per liter. In another area of regulation, the Environmental Protection Agency, in 1980, was expected to render a decision concerning the continued registration of arsenical wood preservatives.

A wide variety of synthetic organic compounds may be substituted for arsenical pesticides. As a wood preservative, pentaclorophenol (PCP) and creosote may be substituted for chromated copper arsenate (CCA). In addition, arsenic trioxide may be substituted for arsenic metal in certain nonferrous alloying applications.

World Production of White Arsenic (Arsenic Trioxide) In Short Tons

Year	Portugal	Spain	Brazil	Canada	France	W. Germany	U.S.S.R.	Japan	Mexico	Peru	Rep. of Korea	Sweden	So. West Africa	World Total
1967	278	142	245	378	15,432	583	7,716	709	16,498	298	N.A.	22,266	N.A.	64,876
1968	207	143	344	337	15,232	746	7,770	789	14,915	1,353	N.A.	23,259	2,450	67,545
1969	272	101	331	170	15,000	648	7,830	639	8,800	530	N.A.	18,188	2,444	54,953
1970	209	19	328	71	11,236	408	7,880	974	10,075	851	N.A.	18,078	4,478	54,607
1971	205	—	163	50	11,000	40	7,880	1,054	12,658	723	N.A.	17,600	4,080	55,453
1972	15	—	181	30	8,423	491	7,940	471	6,523	1,123	N.A.	17,857	2,612	45,666
1973	399	—	76	—	9,000	520	7,990	322	5,606	1,528	10	16,755	8,981	51,187
1974	290	—	20	—	9,000	401	8,050	213	10,477	2,175	18	16,190	7,319	54,153
1975	282	—	14	—	7,300	350	8,100	66	6,747	1,461	110	12,884	7,345	44,659
1976	306		0		7,600	400	8,200	66	4,591	870	778	7,994	7,700	38,505
1977[1]	265		—		7,600	400	8,300	—	4,400	880	541	7,412	8,000	37,798
1978[2]					7,600		8,400		5,214	1,386		6,000	2,647	32,491
1979[2]					7,600		8,500		5,500	1,500		6,000	2,500	32,900
1980														

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

Salient Statistics of White Arsenic in the U.S. In Short Tons

Year	Imports		Price	Value of Imports Thous. $	Imports for consumption White Arsenic	Production of Calcium Arsenate	Production of Lead Arsenate	Imports From					Consumption of Wood Preservatives[3]
	Metal (As)	Arsenic Compounds	Powdered in Barrels ¢ lb.[4]					Peru	France	Mexico	South Africa	Sweden	
1967			5.7		27,075	N.A.	N.A.	18	5,557	11,453	968	6,245	1,961
1968			6–6¼		25,195	1,700	N.A.	644	6,424	7,159	1,134	9,315	1,247
1969			6¼–6¾	2,064	18,171	600	N.A.	255	4,336	7,361	121	6,071	N.A.
1970			6¼–6¾	2,089	18,763	600	2,100	100	2,650	7,750	111	8,142	806
1971			6¼–6¾	2,187	17,306	470	3,100	68	1,425	8,316	196	7,276	1,085
1972	661		6¼–6¾	1,956	13,613	N.A.	N.A.	24	1,556	3,552	285	8,184	
1973	643	—	6¼–6¾	2,045	13,496	N.A.	N.A.	25	1,281	5,605	409	6,144	
1974	707	43	13	2,449	13,742	N.A.	N.A.	24	480	6,185	145	6,889	
1975	483	77	20–23	4,426	12,013	N.A.	N.A.	66	595	3,174	970	7,172	
1976	288	355	20–21	1,528	4,262			—	462	3,793	—	3	
1977[2]	356	1,603	20–21	1,962	5,981			—	1,352	3,089	—	1,323	
1978[1]	369	1,042	28–32		10,306								
1979[1]	400	600	32		12,000								
1980													

[1] Estimate. [2] Preliminary. [3] Wolman salts (25% sodium arsenate.) [4] Refined, 99%, at N.Y. docks. *Source: Bureau of Mines*

Barley

The U.S. supply of barley for the 1979/80 marketing season which began June 1, 1979, amounted to 617 million bushels, slightly smaller than for the previous season. A record barley yield per acre was more than offset by a nearly 20 percent reduction in harvested acreage.

Barley stored in all positions on January 1, 1980, totaled 364 million bushels, 7 percent less than a year earlier. Feed and residual use in the June–December period totaled about 123 million bushels, about 4 million more than in the corresponding period the previous season, while exports totaled about 32 million, up almost 9 million from the year-earlier level. January 1, 1980, barley stocks were concentrated in North Dakota, Minnesota, Montana, Idaho, South Dakota and Wisconsin.

Total U.S. disappearance of barley during the 1979/80 marketing year was projected at about 425 million bushels, compared with 402 million in 1978/79. Barley feeding was projected at about 205 million bushels, about the same as in the previous season. Food, seed and industrial uses were expected to take about 170 million bushels, also about the same as in 1978/79. However, exports were projected at about 50 million bushels, nearly double those of last season.

The export outlook for U.S. barley was helped by reduced world feedgrain production in the 1979/80 season, compared with the previous season. Barley is the major feedgrain produced and used in many countries, and the USDA estimated that world production in 1979 would be less than in 1978. Foreign demand for U.S. barley depends considerably upon the size of world feedgrain crops. Yet, prospects for U.S. barley exports continue to be restrained by subsidized exports of barley from the European Community (EC).

Barley farmers who participated in the 1979 acreage set-aside program received a deficiency payment of 11 cents per bushel on their 1979 crop because average prices received by farmers in the first 5 months of the season were lower than the target price. Of the 8.1 million acres planted to barley for the 1979 crop, 3.3 million acres (41 percent) were in compliance with the 1979 feedgrain program. The barley set-aside was 0.7 million acres. Over 50 percent of barley plantings in South Dakota, Idaho, and Montana were in compliance with the program. In North Dakota, 50 percent of plantings were in compliance, and 44.9 percent in Minnesota.

There are no acreage set-aside requirements for 1980 feedgrain crops, including barley, for which the National Program Acreage is 7.9 million acres. Those farmers who plant no more than was planted, set-aside, or considered to have been planted in 1979 will have full target price protection in 1980. And, all producers are eligible for target price protection, loans, and the farmer-owned reserve program.

Following the suspension of agricultural exports to the Soviet Union, announced January 4, the USDA made certain changes in feedgrain policy in order to alleviate any adverse price impact from the trade suspension. For barley, the 1979 crop loan rate was increased to $1.71 per bushel from $1.63 previously. The farmer-owned reserve release price was raised to $2.14 per bushel and the call price to $2.39 per bushel. The call price for barley entered into the grain reserve after January 7, 1980, is $2.48 per bushel, somewhat higher than for grain entered prior to that date. The lower limit at which the Commodity Credit Corp. (CCC) can sell barley stocks while the grain reserve is in operation (150 percent of the current loan rate) is $2.57 per bushel. A 1980 barley target price of $2.55 per bushel was approved in mid-March.

Futures Market

Barley futures are traded on the Winnipeg Commodity Exchange.

World Production of Barley In Thousands of Metric Tons

Crop Years	United States	Argentina	Canada	Rep. of Korea	Denmark	Morocco	France	India	Japan	U.S.S.R.	W. Germany	Spain	Turkey	United King.	World Total
1968–9	9,278	556	7,084	2,084	5,059	2,223	9,139	3,504	1,021	24,600	4,825	3,708	3,500	8,271	114,388
1969–0	9,298	570	8,238	2,066	5,255	1,310	9,452	2,424	812	26,800	4,796	3,969	3,700	8,663	117,354
1970–1	9,060	367	9,050	1,974	4,813	1,477	8,126	2,716	573	31,600	4,611	3,092	3,300	7,529	119,579
1971–2	10,094	553	13,099	1,857	5,458	1,675	8,930	2,784	503	34,564	5,601	4,783	4,170	8,558	136,475
1972–3	9,220	880	11,285	1,965	5,572	1,744	10,425	2,577	325	36,800	5,817	4,358	3,725	9,238	138,500
1973–4	9,188	732	10,224	1,778	5,507	1,255	10,844	2,379	216	55,044	6,622	4,402	2,900	9,007	157,992
1974–5	6,619	430	8,802	1,388	5,967	2,387	10,037	2,371	233	54,161	7,048	5,404	3,330	9,133	159,881
1975–6	8,361	523	9,520	1,700	5,156	1,585	9,344	3,135	221	35,808	6,971	6,728	4,500	8,513	144,467
1976–7[1]	8,099	760	10,513	1,759	4,768	2,761	8,319	3,192	210	69,539	6,487	5,473	4,900	7,648	177,987
1977–8[2]	9,057	700	11,516	814	5,920	981	10,319	2,296	206	55,000	7,549	6,552	5,100	10,870	170,176
1978–9[1]	9,732	554	10,387	1,348	6,295	2,326	11,414	2,311	326	62,077	8,608	7,953	4,750	9,850	184,269
1979–80[2]	7,925	520	8,460	1,508	6,950	1,886	10,900	2,121	406	49,000	8,397	6,398	4,500	9,400	163,456
1980–1															

[1] Preliminary. [2] Estimated. *Source: Foreign Agricultural Service, U.S.D.A.*

BARLEY

U.S. Barley Acreage and Prices

Year Beginning June 1	Acreage (Million Acres)				Yield per Harvested Acre In Bushels	Seasonal Prices				Govt. Price Support Operations			
							Minneapolis No. 3 or Better						
	National Program	Set-aside	Planted	Harvested for Grain		Received by Farmers[1]	Feed[2]	Malting[3]	Portland No. 2 Western	National Avg. Loan Rate	Support or Target Price	(Mil. Bu.)	Total Payments to Participants (Mil. $)
						Dollars per Bushel							
1971–2	18.0	0	11.1	10.2	45.7	.99	1.04	1.13	1.49	.81	0	88.9	0
1972–3	18.0	4.9	10.6	9.7	43.6	1.17	1.17	1.39	1.68	.86	0	41.7	107.2
1973–4	17.3	1.4	11.0	10.3	40.5	2.13	2.03	2.63	2.69	.86	1.34	15.3	77.7
1974–5	[6]	0	8.7	7.9	37.7	2.81	2.58	4.16	3.02	.90	1.13	6.9	16.0[7]
1975–6	[6]	0	9.3	8.5	43.9	2.42	2.38	3.51	2.54	.90	1.13	9.2	4.9[7]
1976–7	[6]	0	9.2	8.3	44.9	2.25	2.35	3.13	2.48	1.22	1.28	19.2	10[7]
1977–8	11.7	0	10.6	9.6	43.9	1.78	1.68	2.27	2.15	1.63	2.15	86.9	121[8]
1978–9[4]	7.5	.8	10.0	9.2	48.6	1.92	1.80	2.38	2.10	1.63	2.25	68.0	97[7]
1979–0[4]	7.8	.7	8.1	7.5	50.6	2.25–2.35	2.22	2.94	2.69	1.71	2.40		23[8]
1980–1[5]			8.4										

[1] Excludes support payments. [2] Beginning June 1977, No. 2 Feed. [3] 60% to 70% plump or better. [4] Preliminary. [5] Estimate. [6] Available for total feed grains only. [7] Disaster payments. [8] Deficiency & disaster payments. [9] Deficiency, disaster & diversion payments. *Source: Commodity Economic Division, U.S.D.A.*

Production of Barley in the United States, by States In Millions of Bushels

Year	Arizona	California	Colorado	Idaho	Kansas	Minnesota	Oklahoma	Montana	North Dakota	Oregon	Pennsylvania	Utah	South Dakota	Washington	U.S. Total
1968	12.8	67.5	11.0	27.0	3.7	46.5	12.1	42.7	107.3	10.5	9.0	7.8	19.1	10.7	426.2
1969	10.2	50.6	12.3	35.3	6.3	31.9	18.9	67.9	91.2	17.6	9.2	7.8	12.0	16.8	427.1
1970	10.6	58.8	14.6	41.3	6.9	21.5	23.4	65.1	65.9	18.2	8.6	8.2	12.1	19.9	416.1
1971	8.8	53.3	13.9	41.4	7.4	40.7	15.4	58.8	99.8	18.1	9.0	8.5	19.6	27.8	462.4
1972	6.9	50.9	11.0	39.7	4.3	34.0	8.8	64.0	104.7	12.0	7.4	8.1	20.7	14.2	421.7
1973	8.3	47.9	12.3	43.5	3.0	41.1	7.3	60.0	102.5	9.2	5.7	7.7	22.1	13.5	417.4
1974	4.3	45.6	10.0	31.7	1.5	28.9	2.8	37.5	56.3	8.6	7.7	7.1	12.8	12.4	298.7
1975	4.9	60.4	12.2	37.8	1.9	30.6	2.4	0.7	79.8	8.7	6.5	8.1	16.5	20.1	374.4
1976	4.3	56.6	13.5	43.2	2.4	35.3	3.1	52.1	81.3	7.4	5.4	6.9	6.0	21.1	372.5
1977	4.2	53.2	13.6	44.2	2.8	55.1	4.2	52.2	98.7	8.9	6.3	6.2	26.9	9.5	420.2
1978	2.5	45.6	15.4	55.8	2.6	52.0	2.7	59.1	112.7	9.3	5.9	7.6	20.9	23.2	449.2
1979[1]	3.2	47.4	20.0	49.3	2.7	40.8	2.5	40.6	75.9	8.0	5.4	9.0	20.0	17.0	378.1
1980															

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

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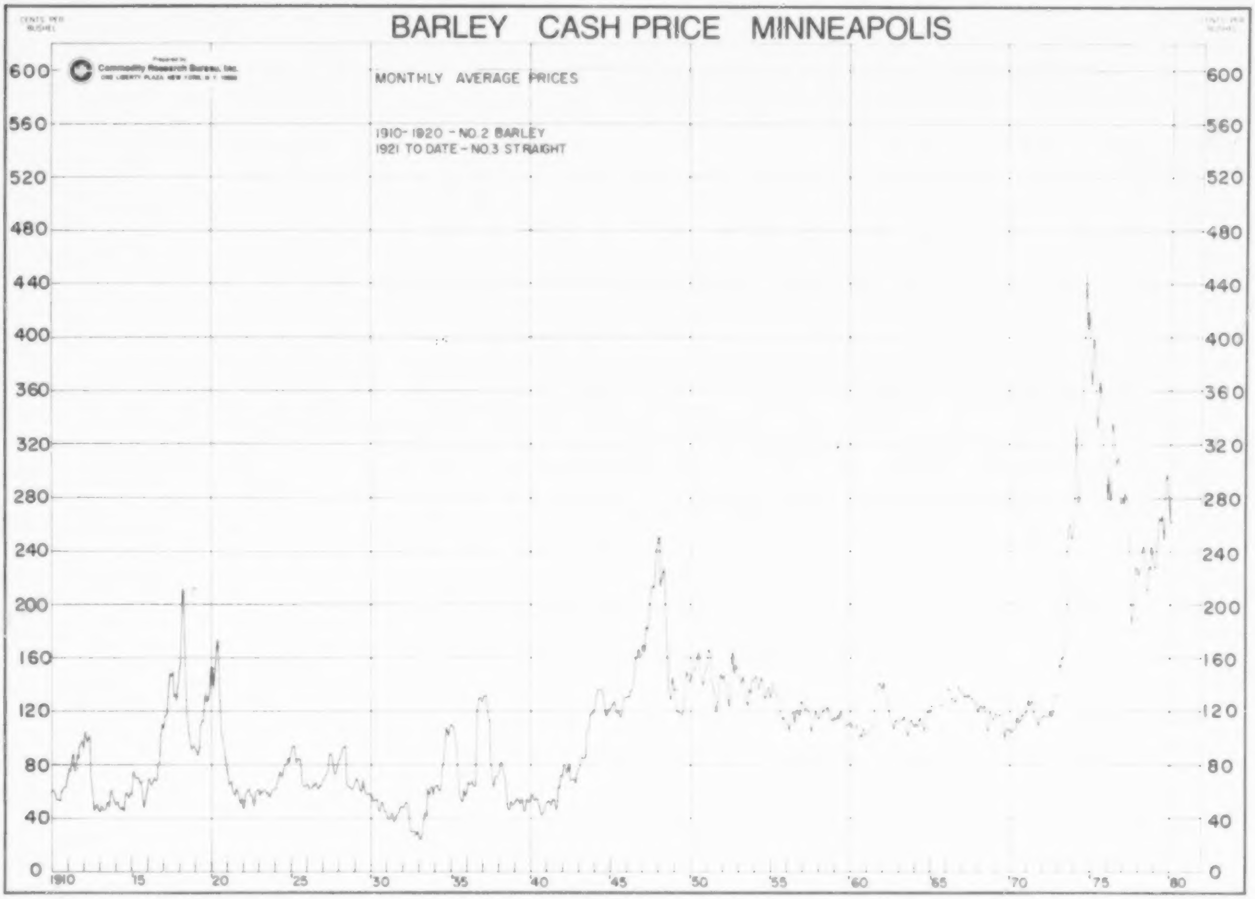


Average Cash Price of No. 2[2], Feed Barley, in Minneapolis In Cents Per Bushel

Year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Average
1971–2	108	100	95	99	104	104	104	107	107	105	106	108	104
1972–3	105	96	98	111	110	114	127	134	120	119	125	136	117
1973–4	151	167	212	212	202	180	212	234	251	232	174	210	203
1974–5	236	236	269	248	307	317	289	282	259	226	224	205	258
1975–6	167	204	277	300	283	242	223	211	226	236	239	250	238
1976–7	262	245	248	268	246	221	205	220	235	229	228	213	235
1977–8	176[2]	163	150	158	166	165	165	165	165	166	191	190	168
1978–9[1]	184	171	168	177	181	188	179	171	169	186	189	196	180
1979–0[1]	216	239	215	222	234	211	215	209	204	206	212		
1980–1													

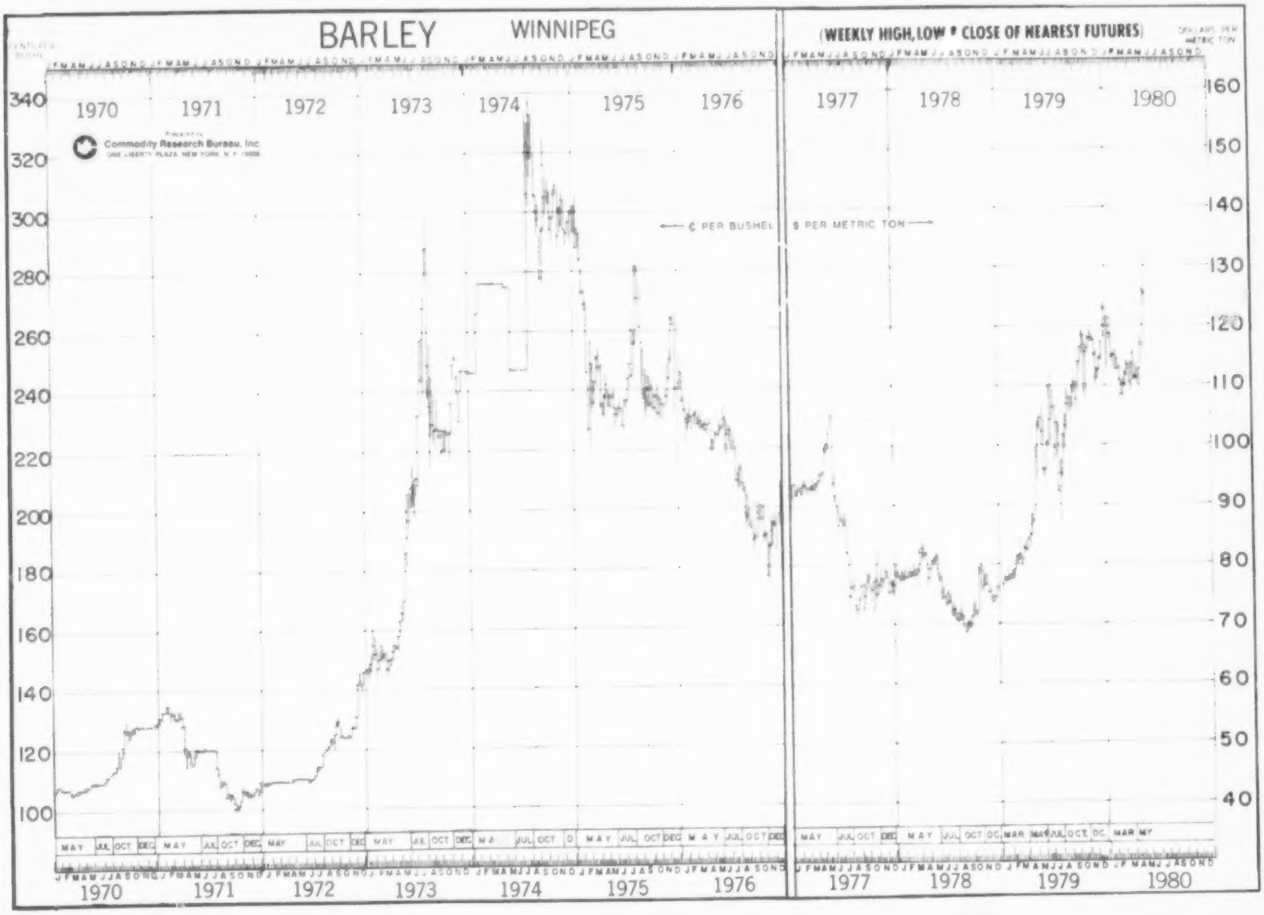
[1] Preliminary. [2] Prior to June 1977 prices are for No. 3 or better. *Source: Economic Research Service, U.S.D.A.*

BARLEY

Salient Statistics of Barley in the United States In Millions of Bushels

Year & Periods Begin. June 1	Supply				Disappearance							Ending Stocks		
					Domestic Use									
	Beginning Stocks	Production	Imports	Total Supply	Food	Alc. Beverages	Seed	& Residual Feed	Total	Exports	Total Disappearance	Gov't. Owned[1]	Privately Owned[2]	Total Stocks
1975–6	92.2	374.4	15.7	482.3	8.6	124.8	15.5	181.6	330.5	23.9	354.4	—	127.9	127.9
1976–7	127.9	372.5	10.8	511.2	8.6	131.5	17.9	161.3	319.3	66.2	385.5	—	125.7	125.7
June–Sept.	127.9	372.5	5.6	506.0	2.9	48.2	1.4	77.1	129.7	15.0	144.7	—	361.3	361.3
Oct.–Dec.	361.3	—	1.0	362.3	2.1	28.2	2.5	30.5	63.3	27.8	91.1	—	271.2	271.2
Jan.–Mar.	271.2	—	2.6	273.8	2.1	30.6	4.3	35.9	72.8	12.9	85.7	—	188.1	188.1
Apr.–May	188.1	—	1.6	189.7	1.5	24.5	9.7	17.8	53.5	10.5	64.0	—	125.7	125.7
1977–8	125.7	420.2	9.4	555.3	8.6	131.5	17.8	168.1	326.0	57.2	383.2	—	172.1	172.1
June–Sept.	125.7	420.2	5.1	551.0	2.9	46.7	1.4	59.9	110.9	34.9	145.8	—	405.2	405.2
Oct.–Dec.	405.2	—	1.8	407.0	2.1	27.9	2.5	30.9	63.4	14.4	77.8	—	329.2	329.2
Jan.–Mar.	329.2	—	1.8	331.0	2.1	32.8	4.3	51.5	90.7	2.3	93.0	—	238.0	238.0
Apr.–May	238.0	—	.7	238.7	1.5	24.1	9.6	25.8	61.0	5.6	66.6	—	172.1	172.1
1978–9[3]	172.1	449.2	10.7	632.0	8.6	147.5	14.7	206.8	377.6	25.7	403.3	2.3	226.4	228.7
June–Sept.	172.1	449.2	2.8	624.1	2.9	52.5	1.2	77.7	134.3	18.8	153.1	.6	470.4	471.0
Oct.–Dec.	471.0	—	2.8	473.8	2.1	33.0	2.2	41.5	78.8	4.7	83.5	1.3	389.0	390.3
Jan.–Mar.	390.3	—	3.1	393.4	2.1	35.5	3.7	55.4	96.7	.8	97.5	2.0	293.9	295.9
Apr.–May	295.9	—	2.0	297.9	1.5	26.5	7.6	32.2	67.8	1.4	69.2	2.3	226.4	228.7
1979–0[4]	228.7	378.1	10.0	616.8	8.6	145.3	16.1	204.8	374.8	50.0	424.8	—	—	192.0
June–Sept.	228.7	378.1	3.7	610.5	2.9	51.9	1.2	85.7	141.7	9.9	151.6	2.9	456.0	458.9
Oct.–Dec.	458.9	—	2.8	461.7	2.1	33.5	2.2	38.2	76.0	22.4	98.4	2.6	360.7	363.3
Apr.–May	363.3	—	3.2	366.5	2.1	32.4	3.9	56.4	94.8	11.1	105.9	3.2	257.4	260.6

[1] Uncommitted inventory. [2] Includes quantity under loan & farmer-owned reserve. [3] Preliminary. [4] Estimate.
Source: Commolity Economics Division, U.S.D.A.



Bauxite

U.S. production of bauxite in 1979 totaled about 1.75 million tonnes (metric tons), up from 1.67 million in 1978, according to Bureau of Mines data. U.S. imports of crude and dried bauxite for consumption totaled 13.9 million tonnes in 1979, of which Jamaica, Guinea and Surinam supplied 86 percent. The first large shipments of bauxite to the U.S. from the new Trombetas bauxite project in the Amazon Basin of Brazil were registered in the fourth quarter of 1979. Imports of alumina, the intermediate product between bauxite and aluminum, totaled 3.84 million tonnes, down from 3.97 million in 1978. Australia supplied 76 percent of total alumina imports in 1979. Imports provided all of the bauxite used at seven of the nine domestic alumina plants and about 40 percent of the alumina supply.

Apparent consumption of bauxite and alumina in the U.S. in 1979 totaled 5.4 million tonnes (dry basis), compared with 5.3 million in the previous year. Apparent demand for aluminum metal in the U.S. is expected to increase at an average annual rate of about 7 percent through 1985. Annual domestic bauxite production during this period is expected to continue within the 1.3 million to 2.1 million tonne range prevalent since 1950. Thus, U.S. reliance on imported aluminum raw materials is expected to continue to increase until processes to use the abundant domestic non-bauxitic raw materials become economically feasible.

Research on processes to produce alumina from non-bauxitic materials is continuing. Possible alternative domestic raw materials for making alumina include clays, anorthosite, alunite, coal wastes, and oil shales. Bauxite substitutes for making aluminous refractories and chemicals are clays and alumina; substitutes for abrasives made from bauxite include silicon carbide, aluminum-zirconium oxide, and diamonds.

World Production of Bauxite In Thousands of Long Tons

Year	Guyana[3]	France	Guinea	Hungary	Indonesia	Australia	Malaysia	Greece	Surinam	U.S.S.R.[3]	Jamaica[3]	United States[3]	Yugoslavia	World Total
1967	3,327	2,768	1,613	1,624	906	4.176	885	1,632	5,379	5,000	9,119	1,654	2,097	43,889
1968	3,663	2,670	2,084	1,928	865	4,877	786	1,807	5,569	4,900	8,391	1,665	2,039	45,256
1969	4,238	2,753	2,420	1,904	753	7,796	1,056	1,807	5,364	4,100	10,333	1,843	2,094	51,008
1970	4,347	2,945	2,451	1,990	1,210	9,110	1,121	2,256	5,257	4,200	11,820	2,082	2,066	56,873
1971	3,858	3,134	1,966	2,057	1,218	12,532	962	2,816	6,612	4,000	12,244	1,988	1,928	61,143
1972	3,291	3,203	2,018	2,321	1,256	14,209	1,059	2,398	7,654	4,100	12,345	1,812	2,162	64,021
1973	3,224	3,084	3,000	2,559	1,200	17,535	1,200	2,600	6,580	4,200	13,385	1,879	2,133	68,563
1974	3,200	2,892	7,480	2,708	1,270	19,679	933	2,739	6,600	4,200	15,086	1,949	2,333	78,362
1975	3,200	2,523	8,273	2,844	977	20,672	692	2,958	4,850	4,300	11,388	1,772	2,270	73,610
1976	2,640	2,293	11,137	2,872	925	23,703	650	2,511	4,540	4,400	10,149	1,958	2,001	76,602
1977[1]	2,690	1,996	11,140	2,901	1,435	25,658	606	2,936	4,730	4,500	11,253	1,981	2,012	81,102
1978[2]	2,400		12,000	2,898		24,300		2,630	5,200	4,600	11,736	1,669	2,566	81,700
1979[2]	2,500		12,500	3,000		26,000		2,600	5,000	4,600	11,800	1,700	2,800	85,000
1980														

[1] Preliminary. [2] Estimate. [3] Dry Bauxite equivalent of ore processed. *Source: Bureau of Mines*

U.S. Salient Statistics of Bauxite In Thousand of Metric[6] Tons

Year	Avg. Price F.O.B. Mine $ Per Ton	Production			Recovery of Processed Bauxite			Dry Equivalent			Stocks, Dec. 31			
		Crude	Dried Equivalent	Value ($1,000)	Crude Ore Treated	Processed Bauxite Recovered[1] Total	Processed Bauxite Recovered[1] Dried Equiv.	Imports[2]	Exports[3]	Consumption	Producers & Processors	Consumers	Govt.	Total
1967		2,051	1,654	19,079	223.2	123.2	166.7	11,594	2	14,503	3,586			
1968		2,071	1,665	23,752	209.9	107.7	152.1	10,976	7	14,097	3,586			
1969	7–10	2,233	1,843	25,725	288	162	218	12,160	5	15,580	2,956			
1970	7–10	2,522	2,082	30,070	428	259	343	12,620	3	15,673	966	2,263	18,020	21,249
1971	5–15	2,419	1,988	28,543	444	250	357	12,326	34	15,619	997	2,667	17,149	20,813
1972	5–15	2,200	1,812	23,238	399	210	319	12,601	29	15,375	791	2,797	16,453	20,041
1973	5–15	2,287	1,879	26,635	338	169	287	13,403	12	16,650	684	2,165	16,029	18,878
1974	5–15	2,370	1,949	25,663	348	177	279	14,976	16	16,904	534	3,982	15,152	19,669
1975	5–15	2,164	1,772	25,083	355	179	282	11,529	19	12,388	486	5,209	15,066	20,761
1976	5–15	2,382	1,958	26,645	360	172	284	12,548	15	13,817	518	4,845	15,066	20,428
1977[4]	5–15	2,397	1,981	28,018	412	167	289	12,784	25	14,299	618	5,412	14,849	20,879
1978[6]	5–15		1,669					13,847	23					
1979[5]	5–15		1,752					13,913	25					
1980														

[1] Calcined, or sintered. [2] Imports for consumption. As "shipped" basis. [3] Including concentrates. [4] Preliminary. [5] Estimate. [6] Data prior to 1978 are in THOUSANDS OF LONG TONS. *Source: Bureau of Mines*

Beer

United States Production of Beer (Fermented Malt Liquors) In Millions of Barrels (of 31 Wine Gallons[1])

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	8.38	8.15	10.68	10.77	11.26	11.21	10.64	10.74	8.89	9.00	8.37	8.47	116.55
1968	9.05	8.57	10.11	10.84	11.48	11.37	12.30	11.37	9.86	10.10	8.46	8.90	122.41
1969	8.99	8.81	10.99	11.43	11.28	10.17	13.09	11.98	11.61	10.81	8.54	9.62	127.32
1970	9.56	9.31	11.84	12.45	12.45	13.40	12.38	11.33	11.01	10.28	9.30	9.82	133.12
1971	9.62	9.41	12.53	12.33	12.37	13.72	13.28	12.28	11.41	10.53	9.87	10.02	137.36
1972	9.96	10.38	12.62	12.53	13.25	14.21	13.18	13.06	11.41	11.24	9.93	9.59	141.34
1973	10.98	10.73	13.14	12.86	13.83	13.09	13.76	14.17	12.12	12.38	10.90	10.65	148.60
1974	12.19	10.98	13.05	13.09	14.71	15.04	15.75	14.61	12.67	12.28	10.71	11.11	156.20
1975	12.55	11.18	12.41	14.50	14.34	15.76	16.08	14.72	13.35	12.35	11.22	12.15	160.60
1976	12.44	11.89	11.86	13.69	15.18	15.76	16.54	16.10	14.31	13.42	11.29	11.19	163.66
1977	11.98	11.48	16.20	16.03	16.79	16.90	15.92	15.31	13.30	12.61	12.02	12.01	170.50
1978	12.87	12.71	15.86	15.63	16.56	16.88	16.74	17.61	14.62	14.01	12.71	12.87	179.66
1979	13.83	13.57	16.89	16.34	16.97	16.77	16.94	16.76	14.70	15.28	13.14	12.18	183.37
1980													

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[1] "Wine gallon" or "gallon" is a U.S. gallon of liquid measure equivalent to the volume of 231 cubic inches.

Source: Internal Revenue Service

Tax-Paid Withdrawals of Beer (Fermented Malt Liquors) in the U.S.
In Millions of Barrels (of 31 Wine Gallons[1])

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	7.00	7.07	9.50	9.18	10.20	10.51	9.63	10.48	8.67	8.29	8.12	8.33	106.97
1968	7.58	7.48	8.95	9.45	10.19	10.30	11.58	10.76	9.11	9.28	8.26	8.48	111.42
1969	7.88	7.66	9.40	10.06	10.25	9.15	11.96	11.44	11.80	10.14	8.28	9.24	116.27
1970	8.47	8.04	10.35	10.66	11.45	11.90	11.87	10.79	10.38	9.62	8.77	9.74	121.86
1971	8.19	8.52	11.00	11.04	11.05	12.88	12.50	11.89	10.96	9.80	9.74	9.83	127.40
1972	8.62	9.09	11.69	11.09	12.41	13.12	12.22	12.89	10.89	10.61	9.92	9.27	131.81
1973	9.67	9.43	12.01	11.65	12.87	12.55	12.77	13.68	11.52	11.54	10.73	10.08	138.47
1974	10.97	9.87	11.82	11.74	13.76	13.86	14.73	13.89	12.09	11.59	10.42	10.74	145.46
1975	11.12	9.84	11.57	13.01	13.42	14.44	14.75	13.88	12.51	11.90	10.61	11.59	148.64
1976	10.86	11.00	10.99	12.91	13.59	14.16	15.01	14.86	13.44	12.22	10.52	10.83	150.39
1977	10.01	10.43	14.55	14.28	15.00	15.71	14.80	14.64	12.89	11.65	11.48	11.51	156.92
1978	10.69	11.01	14.18	13.60	15.00	15.82	15.29	16.28	13.72	12.99	12.04	11.57	162.71
1979	12.32	12.01	15.01	14.96	15.00	15.57	15.13	15.56	13.71	13.64	12.52	11.08	166.51
1980													

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[1] "Wine gallon" or "gallon" is a U.S. gallon of liquid measure equivalent to the volume of 231 cubic inches.

Source: Internal Revenue Service

U.S. Stocks of Beer (Fermented Malt Liquors) at End of Month In Millions of Barrels (of 31 Wine Gallons[1])

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	11.31	11.77	12.14	12.88	13.04	12.83	13.03	12.48	11.95	11.83	11.30	10.77
1968	11.52	11.94	12.36	12.88	13.17	13.51	13.03	12.64	12.54	12.48	11.92	11.56
1969	11.91	12.33	13.00	13.37	13.37	13.57	13.55	13.12	13.05	12.81	12.38	11.90
1970	12.43	12.99	13.46	14.13	14.20	14.69	14.18	13.76	13.45	13.22	12.96	12.26
1971	12.97	13.20	13.81	14.07	14.40	14.26	14.16	13.64	13.31	13.31	12.78	12.23
1972	12.97	13.64	13.82	14.51	14.45	14.40	14.49	13.76	13.54	13.36	12.77	12.44
1973	13.07	13.70	14.01	14.43	14.48	14.20	14.30	13.81	13.58	13.52	12.93	12.76
1974	13.17	13.56	13.92	14.32	14.31	14.47	14.33	14.04	13.72	13.53	13.04	12.58
1975	13.21	13.54	13.76	14.26	14.17	14.30	14.45	14.18	13.98	13.49	13.20	12.74
1976	13.39	13.33	13.31	13.06	13.53	13.89	14.03	13.91	13.60	13.69	13.48	11.94
1977	14.01	13.95	14.59	15.03	15.57	15.37	15.13	14.44	13.57	13.53	13.02	12.42
1978	13.92	12.02	14.50	15.01	14.97	14.57	19.81	14.33	14.01	13.71	13.50	13.76
1979	14.00	14.06	14.44	14.98	14.74	14.50	14.83	14.30	13.87	12.59	13.37	12.73
1980												

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[1] "Wine gallon" or "gallon" is a U.S. gallon of liquid measure equivalent to the volume of 231 cubic inches.

Source: Internal Revenue Service

Bismuth

Preliminary data of the Bureau of Mines indicated that U.S. consumption of bismuth in 1979 totaled 2.5 million pounds, about the same as consumption in 1978. A significant increase occurred in the metallurgical additives use category, compared with the previous year, but a sizable decrease was recorded in the fusible alloys use category. The largest use for bismuth in the U.S. is the pharmaceutical category (46 percent), which includes therapeutic and cosmetic uses as well as industrial catalysts and laboratory chemicals. The luminescent characteristics of bismuth-based cosmetics have resulted in significant gains in bismuth usage, although this application is subject to unpredictable changes in cosmetic fashions. The manufacturing of parts for machinery accounts for 34 percent of total usage; and primary metal industries account for 20 percent of consumption.

Relatively little bismuth is mined and smelted in the U.S. Approximately 90 percent of U.S. requirements for bismuth are accounted for by imports in the form of base-metal ores, bullion, refined metal, or alloys. Preliminary Bureau of Mines data indicated that general imports in 1979 totaled about 2.17 million pounds versus 2.66 million in 1978. Peru was the major supplier in 1979, followed by Mexico. Canada and the Republic of Korea increased their shares of the market, while imports from the Federal Republic of Germany, Japan, Belgium, Luxembourg and the United Kingdom declined significantly.

The degree of U.S. dependence on foreign supply and the importance of precision castings and low-melting point alloys qualify bismuth as a strategic material. U.S. stockpiles at the end of November 1979 contained about 2.1 million pounds of bismuth, compared with a stockpile goal of 771,000 pounds.

Despite many possible substitutes, bismuth holds a relatively stable position in most of its areas of use. Antibiotics have been substituted for some medicinal applications; mica coated with titanium dioxide and fish scales may be used for some cosmetic uses; and special plastics, resins, and alloys of other metals may substitute for bismuth alloys that are valued for precision casting and low melting temperatures.

World Mine Production of Bismuth In Thousands of Pounds

Year	Romania (Ore)	Australia	Bolivia	Canada (Ore)	China (Ore)	France (Metal)	Rep. of Korea (Metal)	Yugoslavia (Metal)	Japan (Metal)	Mexico (Metal)	Peru (Metal)	Sweden (Ore)	U.S.S.R. (Metal)	World Total
1967	N.A.	26	1,107	668.5	551	123	242.5	236.9	1,399	1,111	1,785	66.1	88.0	7,444
1968	132	403	1,268	648	551	141	229	189	1,595	1,157	1,783	44	99	8,312
1969	180	441	1,338	579	550	137	245	226	1,531	1,336	1,500	33	110	8,289
1970	180	422	1,340	590	550	159	234	166	1,495	1,259	1,593	33	110	8,192
1971	180	564	1,504	271	550	170	214	202	1,790	1,257	1,415	33	120	8,330
1972	180	796	1,393	275	550	148	212	196	1,974	1,387	1,492	33	120	8,819
1973	180	1,001	1,297	71	550	126	218	121	1,900	1,290	1,262	33	120	8,205
1974	180	2,579	1,351	245	550	125	289	220	1,837	1,583	1,469	33	130	10,631
1975	180	1,861	1,348	345	550	123	249	122	1,436	1,003	1,354	33	130	8,776
1976	180	1,398	1,349	286	550	139	384	172	1,501	1,228	1,149	33	130	8,532
1977[1]	180	1,455	1,350	310	550	145	400	163	1,523	1,260	1,300	33	145	8,844
1978[2]		2,200	1,060	350			310		1,380	1,610	1,300			9,300
1979[2]		2,000	1,100	350			300		1,400	1,500	1,300			9,050
1980														

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

U.S. Salient Statistics of Bismuth In Thousands of Pounds

Year	Bismuth Consumed, By Uses								Exports of Metal & Alloys	General Imports of Metallic Bismuth from			Price[1] $ Per Pound
	Experimental	Metallurgical Additives	Other Alloys	Fusible Alloys	Pharmaceuticals	Other Uses	Total Consumption	Consumer Stocks Dec. 31[3]		Peru	Mexico	Total	
1967	9.4	[5]	456.2	826.5	1,211.7	9.8	2,513.7	659.6	152.7	850.1	366.2	1,379.7	4.00
1968	.2	[5]	454.5	675.4	1,210.4	7.2	2,347.8	621.5	120.5	658.3	383.4	1,265.7	4.00
1969	.3	509.6	14.1	748.4	1,250.5	9.1	2,532.0	597.9	447.9	319.9	382.6	894.8	4.63
1970	.1	361.5	13.0	643.7	1,183.0	8.3	2,209.6	721.7	910.3	491.1	365.0	997.9	6.00
1971	26.2	362.5	17.4	514.2	724.6	3.8	1,648.7	1,107.2	71.2	191.7	251.6	848.7	5.26
1972	1.1	550.0	18.0	754.4	983.9	8.1	2,315.5	717.5	264.3	478.9	238.7	1,562.9	3.63
1973	—	830.9	15.2	932.6	1,117.6	9.8	2,906.2	540.8	151.1	488.8	357.8	2,683.7	4.92
1974	.3	668.9	21.4	748.6	838.1	6.6	2,284.0	596.8	329.9	459.2	292.5	1,893.7	8.41
1975	.7	416.2	26.0	401.9	553.3	7.9	1,406.0	451.3	128.9	140.6	161.8	1,331.2	7.72
1976	8.8	455.9	20.3	518.6	1,391.7	15.3	2,410.6	483.8	68.5	569.1	248.1	2,328.1	7.50
1977[2]	.6	461.6	18.6	611.2	1,274.5	13.1	2,379.6	436.1	95.3	632.4	182.2	2,013.3	6.01
1978[4]	.6	485.3	21.8	836.0	1,149.7	18.6	2,511.9	781.9	96.3	334.7	535.3	2,657.8	3.38
1979[4]		686.1	22.0	656.9	1,161.0	16.0	2,542.0	533.3	427.8	648.7	604.8	2,167.3	3.04
1980													

[1] N.Y., average ton lots. [2] Preliminary. [3] Prior to 1970 data are for consumer & dealer. [4] Estimate. [5] Included in Other Uses.
Source: Bureau of Mines

Broilers

Broiler meat output in federally inspected slaughter plants totaled 10.9 billion pounds in 1979, up more than 1 billion pounds from 1978 slaughter. Production was expected to run from 5 to 7 percent above the 1979 record during the first half of 1980, though less-than-favorable prices were expected to slow that rate of expansion in the second half.

Consumers used more young chickens (broiler-fryers, roasters and capons) in 1979 than ever before, an estimated 48.6 pounds per person, compared with the 1978 record of 44.7 pounds. Consumption was expected to rise another pound or two per person in 1980.

Exports of young chicken meat—primarily broilers—increased in 1979 to a record 402 million pounds. This total amounted to only 3.6 percent of estimated total production, up slightly from 3.3 percent in 1978. Much of the increase went to Egypt, Mexico, Nigeria, Singapore and Saudi Arabia. Shipments to Japan, the largest U.S. market, declined.

The USDA purchased 88 million pounds of young chicken meat for school lunches and other domestic food programs in 1979, including 70 million pounds of uncooked chicken and 18 million pounds of cooked frozen cut-up chicken.

Broiler futures are traded on the Chicago Board of Trade and the Chicago Mercantile Exchange.

Average Wholesale Broiler Prices Delivered at Chicago[1] (Grade A) In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.	9 City Weighted Avg[2]	Hens[4] 8–16 Lbs. RTC (Chicago)[3]
1970	28.2	27.2	27.7	26.4	26.5	26.1	25.9	25.4	26.0	24.6	25.5	24.8	26.2	26.41	40.8
1971	26.1	27.1	26.7	26.4	28.2	29.1	30.0	27.6	27.0	25.4	24.4	24.1	26.8	27.16	41.0
1972	26.7	28.0	27.8	25.6	26.7	28.2	29.8	28.4	29.6	28.1	27.3	28.2	27.9	28.14	41.4
1973	32.5	36.0	40.9	44.2	41.0	41.3	47.1	60.0	48.1	39.9	34.8	36.6	41.6	42.17	59.6
1974	39.3	39.8	38.5	36.4	35.5	33.8	36.3	36.7	39.8	39.0	41.8	40.2	38.1	38.25	56.0
1975	42.8	40.9	40.2	39.8	42.3	46.9	50.9	49.6	49.6	47.2	45.6	41.7	44.8	45.07	63.3
1976	41.7	42.6	41.6	40.9	42.0	41.7	43.3	41.4	39.8	36.2	34.9	35.0	40.1	40.21	59.7
1977	38.7	41.4	42.0	41.1	41.8	42.7	43.8	41.9	40.6	38.8	36.9	35.9	40.5	40.81	53.1
1978	40.0	42.8	41.9	46.1	45.5	50.1	50.2	43.3	44.4	41.5	41.7	42.0	44.1	44.50	65.6
1979	45.4	48.7	47.1	46.7	49.0	45.3	41.4	39.0	39.3	36.4	42.7	45.5	43.9	44.40	66.4
1980															

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[1] Trucklots (U.S. & plant). [2] Ice packed, ready-to-cook. [3] In retail stores (urban areas), whole or cut-up ready to cook. [4] Prior to 1977 prices are for frying chicken. *Source: Bureau of Labor Statistics*

Broiler Supply and Prices in the United States

Year & Quarters	Federally Inspected Slaughter				Total Production RTC[2] (Mil. Lbs.)	Per Capita Consumption (Lbs.)	Prices Farm & City (Cents/Lb.)	
	Number (Mil.)	Avg. Wt. (Lbs.)	Live-weight Pounds (Mil. Lbs.)	Certified RTC Wt. (Mil. Lbs.)				
1976	3,253	3.81	12,408	8,987	9,067	40.4	23.1	40.2
I	765	3.82	2,922	2,116	2,136	9.7	24.6	42.2
II	843	3.78	3,189	2,314	2,335	10.4	24.1	41.7
III	865	3.79	3,277	2,372	2,392	10.6	23.9	41.5
IV	780	3.87	3,020	2,185	2,205	9.7	19.9	35.5
1977	3,334	3.82	12,741	9,227	9,418	41.7	23.5	40.8
I	782	3.82	2,985	2,156	2,201	9.8	23.5	40.9
II	869	3.80	3,305	2,399	2,447	10.8	24.4	42.3
III	884	3.78	3,340	2,424	2,474	10.9	24.6	42.4
IV	798	3.90	3,110	2,248	2,296	10.2	21.5	37.6
1978	3,516	3.88	13,656	9,883	10,151	44.7	26.4	44.5
I	381	3.88	3,226	2,327	2,390	10.5	24.2	41.8
II	909	3.87	3,519	2,547	2,616	11.6	28.0	47.6
III	922	3.84	3,540	2,567	2,636	11.6	24.7	46.6
IV	854	3.95	3,371	2,443	2,509	11.0	26.4	42.1
1979	3,843	3.93	15,111	10,916	11,216	48.8	25.9	44.4
I[1]	907	3.90	3,541	2,551	2,622	11.5	28.3	47.5
II[1]	1,011	3.90	3,936	2,844	2,922	12.8	27.9	47.7
III[1]	1,009	3.92	3,951	2,855	2,933	12.8	24.0	40.8
IV[1]	917	4.02	3,683	2,665	2,739	11.8	23.6	41.7
1980								
I								
II								

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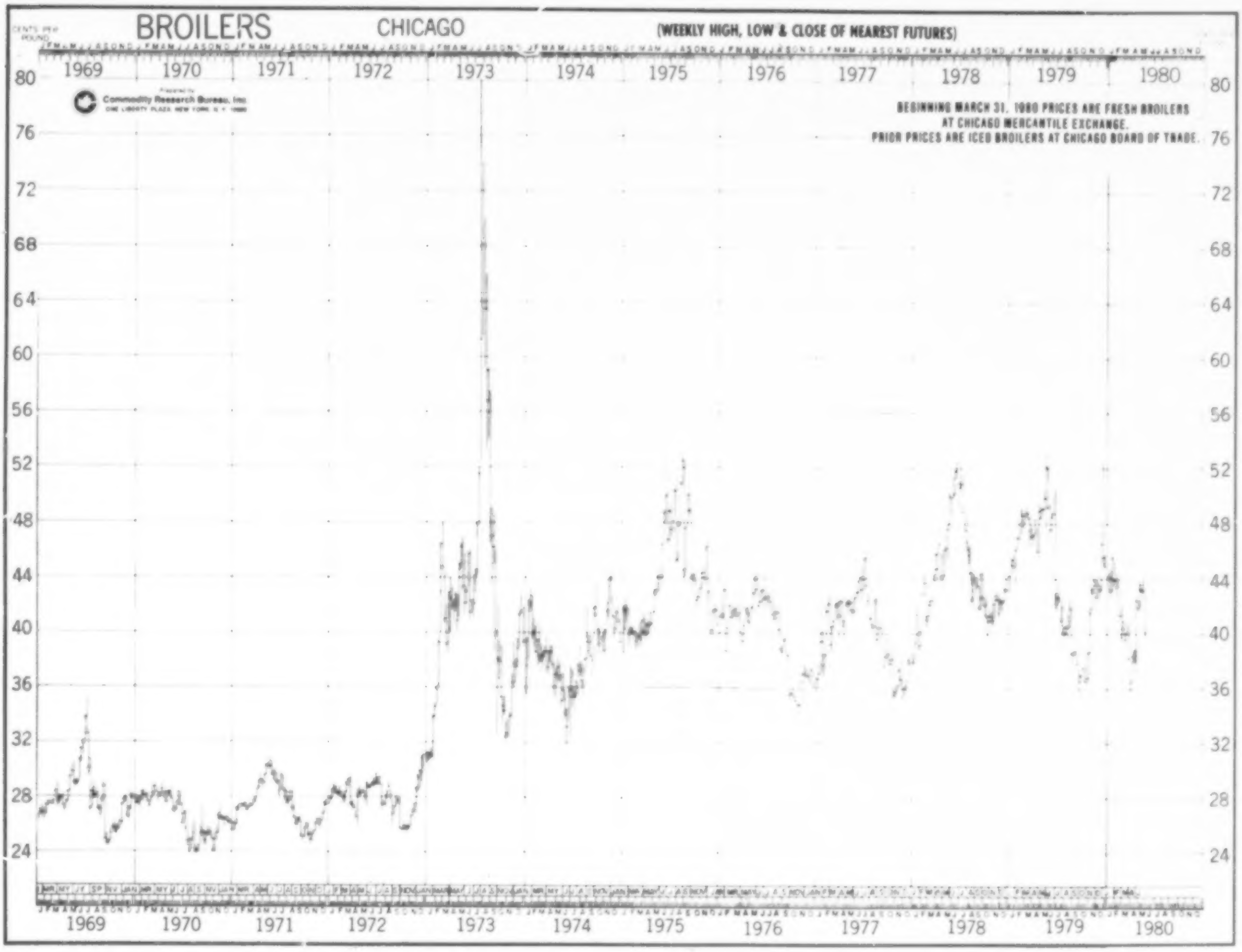
[1] Preliminary. [2] Total production equals fed. inspec. slaughter plus other slaughter minus cut-up & further processing condemnation. *Source: Commodity Economics Division, U.S.D.A.*



Salient Broiler Statistics in the United States

Year	Commercial[3] Production: Number Millions	Commercial[3] Production: Live-weight Mil. Lbs.	Average: Live-weight Per Bird Lb.	Average: Farm Price ¢ Lb.	Value of Production Mil. $	Young Chickens Civilian Disappearance (Mil. Lbs.)	Total Chickens[1] Supply & Distribution — In Millions of Pounds: Commercial Broilers	Other Chickens	Total	Storage Stocks Jan. 1	Exports & Shipments	Consumption: Military	Consumption: Civilian
1967	2,592	9,183	3.54	13.3	1,223	1,687	6,552	827	7,379	163	156	104	7,112
1968	2,620	9,326	3.56	14.2	1,326	1,737	6,653	769	7,422	170	162	100	7,233
1969	2,789	10,048	3.60	15.2	1,531	1,835	7,175	732	7,907	97	166	88	7,640
1970	2,987	10,819	3.62	13.6	1,475	1,958	7,687	778	8,465	110	182	69	8,161
1971	2,945	10,818	3.67	13.8	1,487	1,974	7,724	792	8,516	163	202	75	8,253
1972	3,075	11,480	3.73	14.1	1,623	2,039	8,147	740	8,887	149	206	52	8,667
1973	3,009	11,220	3.73	24.0	2,690	1,985	8,025	736	8,761	111	203	47	8,476
1974	2,993	11,320	3.79	21.5	2,436	2,044	8,126	789	8,915	146	235	34	8,617
1975	2,950	11,096	3.76	26.3	2,915	2,035	8,127	696	8,823	175	273	39	8,572
1976	3,283	12,517	3.81	23.6	2,953	2,262	9,067	684	9,751	114	451	33	9,226
1977	3,400	12,993	3.82	23.6	3,067	2,315	9,418	700	10,118	155	482	26	9,627
1978[1]	3,516	13,656	3.88	26.3	3,691	2,400	10,151	666	10,817	138	505	32	10,316
1979[1]	3,843	15,111	3.93	25.9			11,216			102			
1980													

[1] Preliminary. [2] Beginning 1970 data are for the marketing year starting Dec. 1 through Nov. 30. [3] Ready-to-cook basis.
Source: Economic Research Service, U.S.D.A.

Burlap and Jute

Good growing conditions and an increase in harvested area resulted in a record world jute and kenaf harvest of 4.41 million tonnes in the 1978/79 crop year ended June 30, 1979. However, 1979/80 output was expected to drop by 11 percent to 3.01 million tonnes because of unprecedented drought conditions in India and Bangladesh from March to mid-June 1979. Little of the drought-damaged acreage could be replanted.

In Bangladesh, about 10 percent of the 809,356 hectares planted for 1979/80 was not harvested because of the drought. Crop quality also suffered, with about 40 percent of the crop expected to be classified as low grade. India's pre-monsoon drought, coupled with the lateness of the monsoon and its erratic behavior, reduced 1979/80 acreage to about 0.95 million hectares from 1.26 million hectares a year earlier.

Since low-grade jute fiber has only limited export potential, the government of Bangladesh decided to establish a 400,000-bale jute buffer stock, with purchases beginning on October 1, 1979. India has not imported raw jute during the past two years, and no imports were anticipated for 1979/80. But the government did arrange for the import of 45,000 bales of gunny sacks from Bangladesh to meet the needs of the Food and Fertilizer Corporation of India, an action prompted by a 50-day jute mill worker's strike in West Bengal.

Thai farmers expanded 1978/79 kenaf production in anticipation that price guarantees implemented in 1977/78 would be continued. But the guarantees were dropped by the Thai Jute Mills Association. As a result, many farmers switched to other crops such as cassava in 1979/80. Thai kenaf and jute production probably fell by 27 percent to 220,000 tonnes in 1979/80 from about 300,000 tonnes in 1978/79.

World raw jute and kenaf trade increased 16.2 percent to 525,000 tonnes in 1978/79 from 452,000 a year earlier. Most of the gain was in shipments to developing countries. Raw fiber exports were expected to increase another 20.5 percent in 1979/80 to about 633,000 tonnes, mostly from Bangladesh, while world exports of finished jute products were expected to be up by as much as 30 percent.

Nevertheless, world fiber stocks increased during 1978/79. At the end of that crop year, combined carryover stocks of raw fiber in India, Bangladesh and Thailand totaled about 995,000 tonnes, up nearly 250 percent. Attempts to establish an International Jute Organization under the auspices of the United Nations Conference on Trade and Development continued with little progress during 1979.

Price will continue to determine jute's position in international trade. Despite higher petroleum prices, which raise the cost of competing polyolefins and petro-chemical products, jute producers may have to accept a continued fall in real prices in 1979/80.

Jute and Kenaf Production In Thousands of Metric Tons[3]

Crop Year	Jute		Kenaf (Mesta)		Crop Year	Jute		Kenaf (Mesta)	
	Bangladesh[4]	India[4]	India[4]	Thailand[5]		Bangladesh[4]	India[4]	India[4]	Thailand[5]
1968–9	2,302	1,172	362	332	1974–5	720	805	245	400
1969–70	2,809	2,262	452	725	1975–6	782	800	265	308
1970–1	2,563	1,959	498	661	1976–7	877	964	314	183
1971–2	1,702	2,256	456	820	1977–8	972	961	320	246
1972–3	2,579	1,975	461	960	1978–9[1]	1,169	—1,494—		300
1973–4[3]	1,080	1,116	266	570	1979–0[2]	1,089	—1,170—		220

[1] Preliminary. [2] Estimate. [3] Data prior to 1973 are in MILLIONS OF POUNDS. [4] July–June year. [5] Sept.–Aug. year.
Source: Foreign Agricultural Service, U.S.D.A.

U.S. Imports of Jute[2] & Major Cordage Fibers[2] In Thousands of Metric[6] Tons (Product Weight)

	Jute										Cordage Fibers				
	Manufacturing						Raw[1]								
Year	Jute Fabric, Under 100 in.	Carpet-Backing	Jute Bags	Yarns, Roving & Cordage	Cotton Bale Covers	Total	Jute, Butte & Waste	Jute Fiber, N.E.S.	Total Raw	Total Jute	Harvest Twine[3]	Other Cordage[4]	Raw Fibers[5]	Batting, Sisal & Henequen	Total Cordage Fibers
1969	154.6	198.9	.7	4.4	71.2	429.8	17.2	16.6	33.8	463.5	112.2	21.2	75.3	4.4	213.1
1970	162.6	146.8	1.1	3.9	59.5	373.8	12.6	16.6	29.2	403.0	113.3	20.8	79.8	5.2	219.1
1971	139.8	190.2	1.2	1.5	50.1	382.8	4.4	12.7	17.2	399.9	128.7	20.6	77.1	1.4	227.7
1972	121.2	197.6	.6	5.8	74.3	399.5	4.1	9.0	13.2	412.7	124.3	22.8	70.2	7.8	225.1
1973	124.2	177.8	1.6	6.2	81.0	390.8	17.0	13.9	30.9	421.7	111.9	20.6	52.4	8.4	193.3
1974[6]	102.4	170.7	1.1	6.0	94.1	374.2	7.3	21.0	28.3	402.5	151.8	20.9	47.0	2.0	221.8
1975	74.3	107.9	1.1	12.0	33.5	228.9	8.5	12.8	21.3	250.2	79.8	16.7	27.4	1.0	125.0
1976	93.3	135.2	1.5	6.7	17.0	276.7	8.6	12.4	21.0	297.7	102.4	17.6	22.2	3.0	159.7
1977	88.7	152.7	1.8	2.3	21.1	279.7	6.8	6.1	12.9	292.6	94.8	19.0	38.7	3.8	156.3
1978[7]	87.0	132.5	4.8	2.2	26.5	265.5	10.8	6.2	17.0	282.5	81.4	15.8	44.0	3.5	144.7
1979[7]	76.4	122.6	2.1	2.4	8.6	216.0	9.3	12.0	22.0	238.0	113.1	15.1	33.0	1.4	162.6

[1] Includes some Kenaf, raw & contained in mfg. products. [2] Manufactured & raw. [3] Baler & Binder twine. [4] Industrial twine, cordage (abaca, sisal & henequen). [5] Sisal, Henequen & Abaca. [6] Prior to 1974 data are in THOUSANDS OF LONG TONS. [7] Preliminary. *Source: U.S. Dept. of Commerce*

Average Wholesale Price of Raw Jute, Bang Tossa C., Landed, at New York   In Cents Per Pound

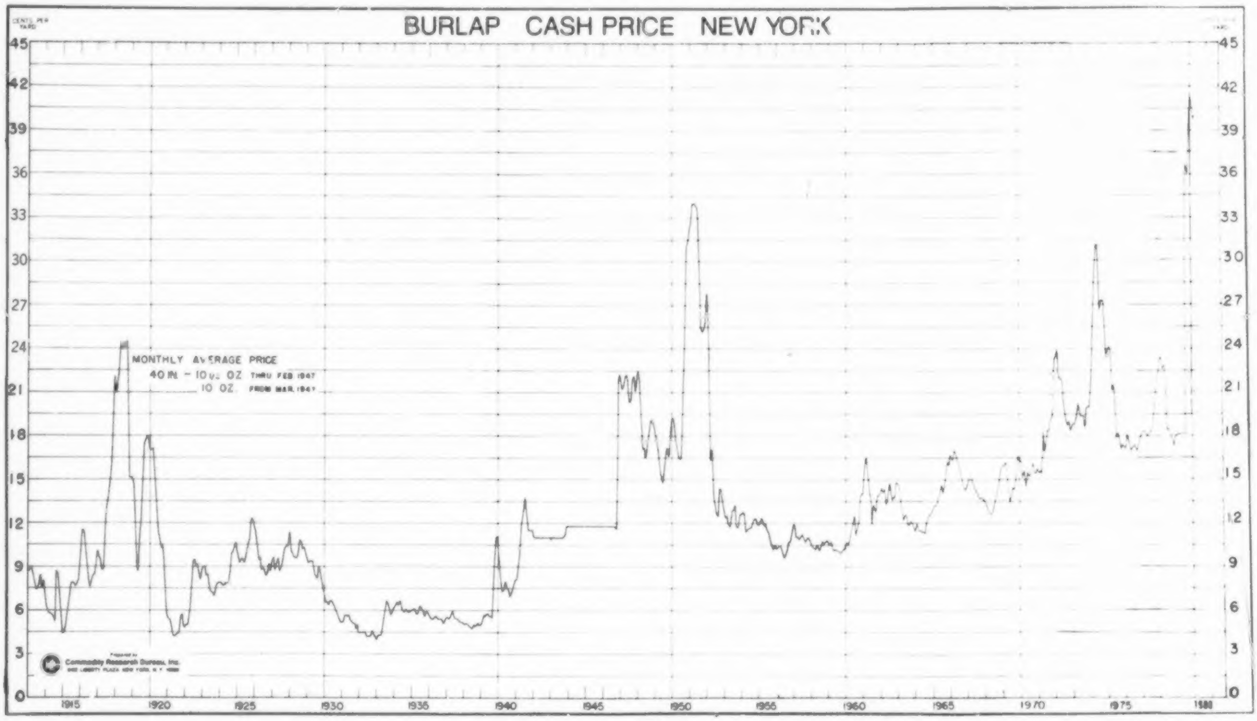
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	18.9	18.9	18.9	18.9	18.9	18.9	18.9	16.4	16.4	16.1	16.1	16.4	17.8
1970	16.4	16.4	16.4	16.6	16.9	17.1	17.1	16.2	16.5	16.5	16.5	16.5	16.6
1971	16.5	16.8	16.8	16.8	16.8	17.1	17.5	17.5	17.7	17.9	17.9	18.5	17.3
1972	N.A.	18.5	N.A.	N.A.	19.7	19.7	17.8	17.8	17.8	17.8	17.8	N.A.	18.4
1973	17.3	17.6	17.6	18.3	18.3	N.A.	18.9	18.8	18.8	18.8	18.2	18.2	18.3
1974	N.A.	N.A.	N.A.	N.A.	N.A.	19.5	19.5	21.5	N.A.	N.A.	25.8	27.8	22.8
1975	27.8	27.8	27.8	27.8	27.8	23.3	N.A.	23.3	N.A.	23.3	N.A.	20.3	25.5
1976	20.4	19.8	20.4	20.9	20.9	20.2	19.7	19.7	19.7	19.7	19.7	19.7	20.1
1977	20.2	20.2	21.4	21.4	21.4	N.A.	21.9	21.9	21.9	22.1	22.6	N.A.	21.5
1978	N.A.	N.A.	28.3	28.3	27.3	26.8	26.8	26.8	26.0	26.0	26.0	26.0	26.8
1979	26.0	26.0	26.0	25.8	26.0	26.0	25.8	N.A.	32.7	32.7	32.7	32.7	28.4
1980													

Source: Bureau of Labor Statistics (0155-0231.01)

Average Wholesale Price of Burlap (40 Inch—10 Oz.) at New York   In Cents Per Yard

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	15.9	16.1	15.0	14.5	13.4	13.9	14.4	14.3	14.7	16.0	16.6	16.2	15.1
1970	16.3	15.1	15.6	14.5	15.5	15.2	15.4	16.0	16.1	15.4	15.4	15.7	15.5
1971	15.4	15.5	15.3	18.3	16.9	18.1	18.4	18.4	19.0	19.3	19.4	23.2	18.1
1972	23.6	23.8	22.0	22.0	21.8	20.3	19.5	19.0	18.8	19.0	18.4	18.8	20.6
1973	18.8	18.9	19.3	20.3	19.9	19.4	19.4	19.4	18.7	18.7	20.0	20.0	19.4
1974	21.5	23.6	26.3	29.5	31.1	31.1	26.7	27.2	27.4	27.3	25.8	23.5	26.8
1975	24.0	24.1	23.8	21.1	21.5	20.6	17.9	18.2	17.6	17.1	17.4	N.A.	20.3
1976	17.2	18.1	17.9	17.4	17.0	17.2	17.4	17.2	17.0	17.4	17.8	18.0	17.5
1977	N.A.	18.3	18.3	18.0	N.A.	18.3	18.3	19.0	19.6	27.0	21.2	22.8	20.1
1978	23.2	23.4	22.6	22.9	18.4	18.5	18.0	18.0	18.0	17.3	18.0	18.0	19.7
1979	18.1	18.1	18.1	18.1	18.1	18.1	N.A.	35.4	36.7	36.0	40.3	41.5	27.1
1980													

Source: Bureau of Labor Statistics (0337-0461.01)



Butter

Butter production in the U.S. declined about 1 percent in 1979 to 985.4 million pounds, despite a 1.7 percent increase in the amount of milk utilized in manufacturing dairy products. With heavy milk supplies expected for 1980, butter output was considered likely to post some year-to-year gains.

Commercial use of butter declined almost 1 percent in 1979 to 895.8 million pounds. The outlook for 1980 use is uncertain, but higher energy costs were expected to reduce away-from-home eating and decrease demand for butter by the restaurant industry. Commercial stocks of butter expanded in late 1979 and early 1980, totaling 30.3 million pounds on February 1, 1980, up 33.5 percent from holdings on the same date in 1979.

U.S. Government Price Supports

The Food and Agriculture Act of 1977 requires a semi-annual review of the dairy price support program. The New York City support price for butter for the marketing year ended September 30, 1980, was changed on April 1 to 143.25 cents a pound, U.S. Grade A or higher. The price paid for butter located at other points will be the New York price minus a shipping differential from that point to New York. However, the price for any location was not to be more than 3 cents a pound below the New York price, except in Wisconsin, where the price for butter produced on or after April 1 was not to exceed the Chicago price of 140.58 cents.

The Commodity Credit Corp. (CCC) removed the equivalent of 2.1 billion pounds of milk from the market in 1979, about 23 percent less than in 1978. Net purchases of butter fell to 81.6 million pounds from 112 million in 1978. Early in 1980, deliveries to the CCC increased sharply, but uncommitted CCC stocks of butter as of March 1, 1980, were up only 3 percent from the year-ago total to 165.3 million pounds. U.S. purchases were expected to continue at a heavy pace through the flush spring production period in first half of 198[illegible], and total CCC removals for 1980 were expected to be up substantially.

U.S. per capita butter consumption was 4.6 pounds in 1979, up slightly from 4.5 pounds in 1978.

World Trends

Butter production in the European Economic Community was forecast at nearly 2 million tonnes in 1979, up somewhat from 1.9 million in 1978 as much of the EEC's increased milk supplies was diverted to butter production. Stocks of EEC butter, some 70 percent of the world's total, were very high, ending 1978 at 555,000 tonnes and forecast to mount to an unprecedented 677,000 tonnes at the end of 1979. A general butter subsidy was in effect in Ireland, the United Kingdom, Luxembourg and Denmark. Also, there were subsidized sales to bakeries, ice cream manufacturers, and homes for the aged. Unconfirmed reports indicate that EEC butter sales to the USSR in 1979 approached 80,000 tonnes.

In sharp contrast with the EEC, production in the rest of the world was expected to be lower in 1979. Eastern European output was expected to drop 0.7 percent in 1979, largely as a result of the severe winter's effect on milk production. Poland had to import butter to meet growing consumer demand.

Canadian butter production was expected to drop 4.9 percent in 1979, with a resulting decrease in stocks, as milk supplies were diverted to cheese production. A similar shift to cheese output in Australia was expected to reduce 1979 production by 7.1 percent to 104,000 tonnes.

New Zealand, a traditional butter exporter, faces an uncertain future in its exports to the EEC. Access to the U.K. market is guaranteed only through 1980 and is limited to 115,000 tonnes for that year. The 1979 quota was 120,000 tonnes. New Zealand either must find new markets for its butter or switch to alternative products. New Zealand's 1979 production was estimated at 251,000 tonnes, up 9.6 percent from 229,000 in 1978.

Supply and Distribution of Butter in the United States In Millions of Pounds

	Supply					Distribution								Butterfat Support Level[4]	
	Production					Domestic Disappearance				Dept. of Agr.					
						Civilian									
Year	Creamery	Farm	Total	Cold Storage Stocks[1] Jan. 1[2]	Imports	Total	Per Capita —Lbs.—	Military	Exports & Shipments[5]	Jan 1 Stocks[6]	Dec 31 Stocks	Removed by U.S.D.A. Programs	Total Disap.	% of Parity	Cents per Pound
1967	1,225	13	1,238	32	2	1,076	5.5	21	7	2	150	265	1,104	81	68.0
1968	1,165	11	1,175	169	2	1,115	5.7	72	40	150	103	195	1,228	77	66.0
1969	1,118	8	1,126	117	2	1,079	5.4	50	27	103	64	188	1,156	75	68.6
1970	1,137	6	1,143	89	2	1,061	5.3	45	9	64	99	246	1,115	75	71.5
1971	1,144	3	1,147	119	2	1,040	5.1	32	99	99	71	292	1,171	—None—	
1972	1,102	—	1,102	97	2	1,017	4.9	23	54	71	96	234	1,094	—None—	
1973	919	—	919	107	56	999	4.8	9	17	96	23	98	1,025	—None—	
1974	962	—	962	57	2	956	4.6	9	7	23	15	33	972	—None—	
1975	984	—	984	49	2	1,012	4.8	9	3	15	5	63	1,024	—None—	
1976	979	—	979	11	2	934	4.4	7	4	5	19	39	945	—None—	
1977	1,086	—	1,086	47	2	941	4.4	5	4	19	151	222	950	—None—	
1978[3]	994	—	994	185	2	946	4.5	3	5	151	192	112	974	—None—	
1979[3]	985	—	985	207	2	1,010	4.6	3	5	192	153	82	1,018	—None—	
1980[3]				176						153					

[1] Commercial. [2] Includes stocks held by U.S.D.A. [3] Preliminary. [4] During marketing year beginning April 1. [5] Includes U.S.D.A. shipments to Territories. [6] Includes butteroil. *Source: Department of Agriculture*

World (Total) Butter[1] Production In Thousands of Metric Tons

Year	Australia	Canada	Argentina	Denmark	France	Ireland	W. Germany	Netherlands	N. Zealand	India	Sweden	U.S.S.R.	South Africa	Un. Kingdom	United States
1971[3]	203	131	37	124	474	76	471	124	230	73	46	1,022	44	66	520
1972	195	132	49	136	540	77	497	163	246	*Avg.*	56	1,081	45	95	500
1973	185	115	38	146	550	87	513	169	242	(432)	56	1,200	38	96	417
1974	175	106	35	137	543	75	511	172	216	439	58	1,260	32	52	436
1975	161	129	40	139	556	86	521	204	239	451	56	1,231	26	48	445
1976	148	114	40	139	540	103	544	202	251	455	61	1,408	26	90	444
1977	118	113	30	131	551	105	535	179	263	457	61	1,500	21	134	493
1978[2]	112	102	29	140	565	119	564	211	229	460	63	1,472	16	162	451
1979[3]	104	97	28	140	580	126	560	230	251	465	66	1,413	14	170	445

[1] Factory (including creameries and dairies) and farm. [2] Preliminary. [3] Forecast.
Source: Foreign Agricultural Service, U.S.D.A.

Production of Creamery Butter in Factories in the United States In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1969	106.8	96.4	103.7	109.0	116.6	110.8	92.6	76.8	67.7	76.7	71.2	90.0	1,118
1970	99.7	92.5	107.0	110.9	116.9	113.3	92.1	78.7	71.8	81.6	78.9	93.1	1,137
1971	102.6	97.7	111.2	112.3	118.2	112.6	89.4	81.1	69.5	79.9	79.3	89.9	1,144
1972	99.9	99.9	106.9	108.0	117.9	110.0	87.7	75.0	66.4	75.2	73.5	81.6	1,102
1973	95.2	84.4	91.4	91.8	99.9	87.1	67.7	56.6	51.1	63.4	60.3	69.5	918.6
1974	83.0	71.4	76.8	90.3	102.2	95.2	80.8	70.4	63.9	70.7	67.3	89.6	961.7
1975	100.5	90.8	98.1	103.2	101.9	88.3	69.2	57.7	58.0	68.2	64.0	83.8	983.8
1976	92.5	85.0	90.0	87.0	91.4	83.9	71.5	65.1	64.0	78.1	77.6	92.5	978.6
1977	105.5	95.4	98.4	99.9	103.2	93.0	81.8	77.8	75.0	84.5	81.5	89.5	1,086
1978	108.3	95.7	97.7	98.5	96.7	84.7	73.7	64.2	64.5	71.7	66.5	77.7	994.3
1979[1]	97.4	86.6	89.3	92.4	98.6	84.7	74.8	64.9	61.5	76.8	74.7	83.8	985.5
1980[2]	103.8	99.1	101.7										

[1] Preliminary. [2] Estimate. *Source: Crop Reporting Board, U.S.D.A.*

Commercial Disappearance of Creamery Butter in the U.S. In Millions of Pounds

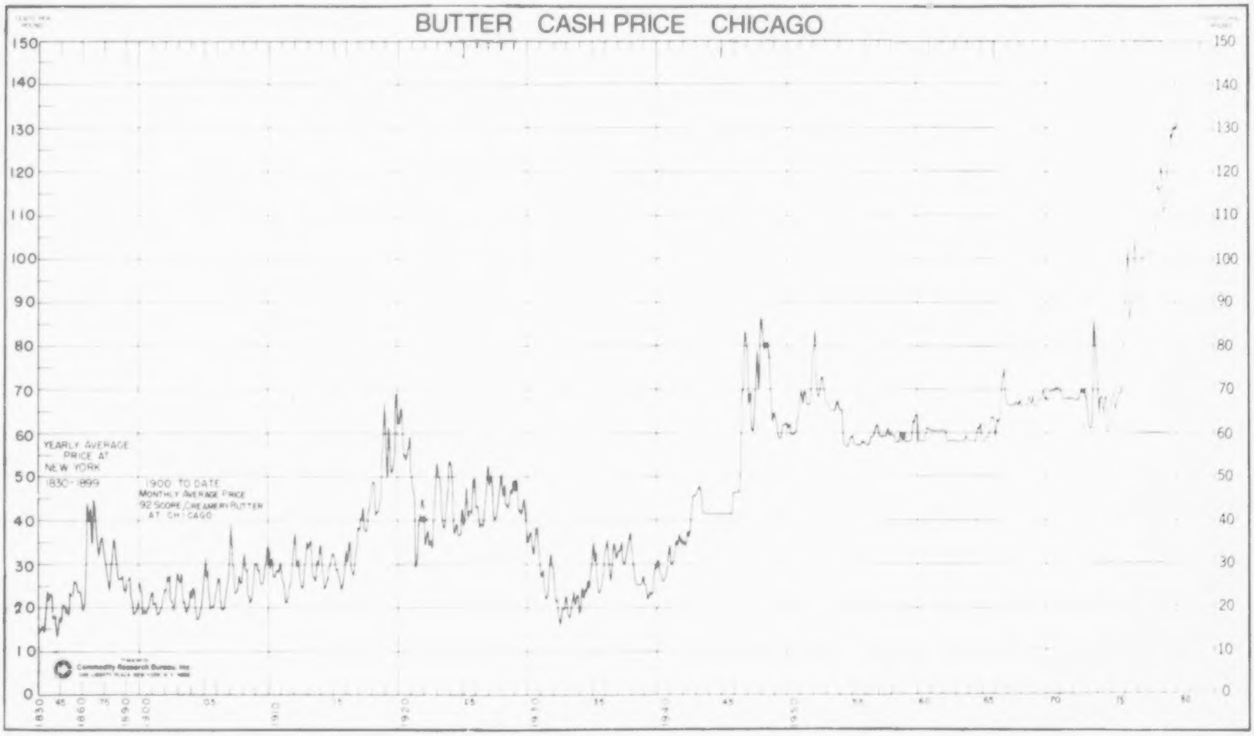
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1969	87.8	68.9	80.6	73.6	75.2	79.2	68.1	72.0	77.7	79.9	78.1	83.7	921.9
1970	86.4	63.5	89.5	70.2	68.6	64.0	68.9	65.5	77.9	81.0	73.3	87.2	898.2
1971	74.2	59.0	50.7	98.5	73.3	55.5	62.4	68.6	70.4	67.1	70.4	94.3	847.1
1972	81.1	59.5	80.0	70.5	72.8	63.1	68.5	72.0	73.4	76.1	82.1	85.1	885.4
1973	65.2	63.6	66.6	82.3	75.0	68.7	58.2	70.6	59.3	72.1	113.9	76.5	855.6
1974	79.6	61.6	69.0	68.2	78.4	70.7	72.0	76.6	73.8	93.4	88.9	93.4	929.9
1975	92.9	70.4	91.4	84.9	78.1	76.6	72.7	77.9	66.5	78.6	71.4	85.1	947.7
1976	94.5	77.2	74.8	74.6	66.5	72.8	70.0	64.0	77.5	81.3	82.6	82.2	919.0
1977	71.9	53.9	83.6	65.0	56.3	44.8	71.6	72.8	89.1	81.5	74.0	94.3	859.8
1978[1]	68.1	65.9	92.0	79.2	61.0	77.5	68.7	69.8	83.8	72.8	77.4	87.4	903.5
1979[1]	82.6	78.3	88.5	74.8	60.3	69.5	74.6	67.5	65.9	75.3	83.1	78.7	895.8
1980[1]	80.0	86.1	90.3										

[1] Preliminary. *Source: Economic Research Service, U.S.D.A.*

Cold Storage Holdings of Creamery Butter in the U.S., on First of Month In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1970	88.6	77.4	81.3	91.1	114.2	146.7	186.0	203.5	198.0	171.3	147.5	134.3
1971	118.8	119.3	134.1	157.9	180.4	209.8	235.1	251.2	246.8	222.0	188.9	155.0
1972	96.8	81.8	93.3	110.1	128.5	159.1	195.9	210.7	198.4	178.4	154.7	132.5
1973	107.5	109.9	110.0	117.2	125.1	139.4	150.2	143.8	113.2	94.3	67.5	54.3
1974	46.4	51.4	50.8	58.1	79.0	97.4	117.5	130.7	122.0	105.6	83.1	58.0
1975	49.2	53.7	61.3	60.5	66.7	85.1	99.6	97.8	78.9	39.6	27.1	15.1
1976	10.9	9.3	16.5	31.1	44.0	69.5	80.9	83.0	82.3	68.1	60.7	47.3
1977	47.1	67.6	94.2	106.3	128.3	163.8	197.1	209.0	208.6	203.3	195.4	193.4
1978	184.9	195.7	215.9	235.8	246.2	264.6	282.0	297.7	284.6	266.7	251.8	228.9
1979[1]	206.9	206.7	214.7	210.1	218.2	239.1	260.1	257.3	238.5	218.0	200.4	182.2
1980[1]	177.8	190.0	203.3	214.2	235.2							

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*



Wholesale Price of 92 Score Creamery (Grade A, Bulk) Butter at Chicago In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Average
1969	66.4	66.4	66.4	67.6	67.6	67.6	67.6	67.8	69.9	68.2	67.8	68.4	67.6
1970	67.6	67.6	68.0	69.8	69.8	69.8	69.8	69.8	70.5	70.1	69.9	70.4	69.4
1971	69.8	69.8	69.8	67.8	67.8	67.8	67.8	67.8	68.1	68.0	67.9	67.9	68.4
1972	67.8	67.8	67.8	67.7	67.7	67.7	67.8	69.5	70.2	69.4	69.2	70.5	68.6
1973	67.7	67.7	64.2	61.6	61.0	61.0	63.4	78.2	85.9	79.3	75.0	73.0	69.8
1974	68.5	64.1	68.1	68.2	60.5	60.6	60.8	67.1	67.7	68.8	68.9	65.3	65.7
1975	66.8	68.1	68.1	69.2	69.2	69.2	76.6	83.6	87.9	93.0	97.3	103.6	79.4
1976	86.1	80.9	86.0	89.5	89.9	95.0	105.8	106.2	92.4	90.8	90.8	90.8	92.0
1977	90.8	90.8	92.7	100.1	100.7	100.7	100.7	100.7	100.7	100.7	100.9	101.5	98.4
1978	100.7	100.7	101.2	105.2	106.7	106.7	107.9	116.7	115.8	115.6	121.1	118.8	109.8
1979	111.3	111.3	114.1	120.7	121.8	121.8	122.7	128.7	127.8	128.8	130.0	130.2	122.4
1980		130.3	130.4	134.3									

Source: Economic Research Service, U.S.D.A.

Average Wholesale Price of 92 Score A Creamery Butter[1] at New York In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov.	Dec.	Average
1969	68.6	68.7	68.8	70.7	70.8	70.7	70.8	70.8	71.3	71.3	70.9	69.6	68.5
1970	68.6	68.7	68.8	70.7	70.8	70.7	70.8	70.8	71.3	71.3	70.9	71.7	70.4
1971	70.8	70.8	70.7	68.8	68.7	68.8	68.7	68.7	69.2	68.8	68.8	69.0	69.3
1972	68.8	68.8	68.8	68.8	68.8	68.8	68.8	70.4	71.0	70.8	70.3	71.5	69.6
1973	68.7	68.7	—	62.4	62.0	61.9	63.9	—	—	—	77.0	74.4	68.9
1974	70.8	65.3	69.8	69.9	62.1	61.8	62.1	68.9	69.4	70.6	70.5	67.3	67.4
1975	67.7	69.3	69.2	70.4	70.5	70.6	78.8	86.3	90.0	95.0	104.2	109.5	81.8
1976	87.8	82.4	83.1	91.8	92.1	97.4	108.4	108.2	97.5	93.4	92.9	92.9	94.4
1977	92.7	92.9	95.2	103.2	102.9	102.9	103.1	103.7	105.1	105.6	105.0	106.0	101.5
1978	104.7	103.5	105.9	108.4	108.8	109.3	111.7	120.7	122.0	121.9	126.0	125.8	114.1
1979	115.0	115.0	119.5	123.9	124.5	124.6	127.1	134.5	122.9	134.2	135.3	136.6	126.1
1980	134.7	135.7											

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[1] Grade A, bulk. *Source: Department of Agriculture*

Cadmium

Cadmium is recovered as a byproduct of smelting domestic and imported zinc concentrates and from imported zinc smelter flue dusts. Domestic production of primary and secondary cadmium declined for the third successive year in 1979. On December 21, 1979, St. Joe Zinc Co., a major producer of cadmium as a byproduct of zinc smelting, permanently closed its zinc smelter at Monaca, Pennsylvania. Closure of this facility is expected to have a considerable impact on U.S. cadmium production capacity.

The U.S., which is the world's major consumer of cadmium, is highly dependent upon cadmium imports. The total amount of metal and ores imported during 1969–78 amounted to about 66 percent of the cumulative U.S. primary demand during that period. U.S. imports of cadmium metals in 1979 amounted to 2,572 tonnes versus 2,881 tonnes in 1978. Major sources of U.S. imports were Canada, Australia, and Mexico.

Apparent U.S. consumption of cadmium in 1979 totaled 4,670 tonnes versus 4,469 tonnes in 1978, according to Bureau of Mines estimates. In 1979, plated hardware accounted for about 33 percent of the total cadmium consumed; nickel-cadmium and other cadmium batteries, an estimated 22 percent; domestic transportation-related uses, about 18 percent; pigments, 13 percent; plastics and synthetic products, 11 percent; and other uses, 3 percent of total consumption. A major potential use for cadmium is in cadmium-sulfide solar energy cells. A reflective coating of cadmium stannate and copper may be used on windows as part of a passive solar heating system for buildings.

Cadmium is included in the U.S. stockpiling program because of its importance in specialized applications where substitutes are in short supply, too expensive, or unsatisfactory. The stockpile inventory totaled 2,871 tonnes on November 30, 1979, whereas the stockpile goal was 11,204 tonnes.

The producer price for cadmium ranged from $2.25 to $3.25 per pound during 1979, ending the year in a range of $2.50–$3.00 per pound.

World Smelter Production of Cadmium Metal In Metric Tons[5]

Year	Australia	Belgium	Canada	France	W. Germany	Italy	Japan	Mexico[3]	Norway	Poland	Un. King.	U.S.S.R.	United States[4]	Zaire	World Total
1967	1,155	1,446	2,058	1,098	800	481	4,186	370	185	915	460	4,850	8,699	580	29,069
1968	1,041	1,764	2,114	1,217	754	551	4,839	446	192	915	452	4,850	10,651	705	33,105
1969	1,259	2,092	2,124	1,153	1,746	930	6,095	462	198	925	541	5,100	12,646	661	38,749
1970	1,355	2,407	1,845	1,164	2,282	937	5,403	591	216	990	701	5,200	9,465	699	36,454
1971	1,234	2,088	1,568	1,276	2,162	772	5,898	424	202	880	578	5,300	7,930	578	34,014
1972	1,586	2,536	2,450	1,262	2,014	918	6,678	410	192	780	530	5,400	8,290	652	36,776
1973	1,494	2,528	3,084	1,336	2,692	876	6,988	402	194	780	692	5,500	7,502	612	37,850
1974	1,588	2,300	2,740	1,420	2,952	1,166	6,674	1,162	198	780	618	5,700	6,666	598	38,082
1975	1,210	2,094	2,628	1,004	2,244	902	5,858	1,292	104	780	606	5,800	4,386	582	33,586
1976	1,434	2,592	2,896	1,172	2,180	960	5,512	1,566	178	780	418	6,000	4,512	586	36,360
1977[1]	1,466	3,148	2,641	1,210	2,941	932	6,096	1,601	212	880	652	6,100	4,407	352	37,803
1978[5]	1,498	2,278	1,930		2,910		5,062	1,900					3,306		32,822
1979[2]	1,940	2,600	2,560				5,800	2,020					3,180		38,600
1980															

[1] Preliminary. [2] Estimate. [3] Refined metal. [4] Primary & secondary metal. [5] Data prior to 1978 are in THOUSANDS OF POUNDS. *Source: Bureau of Mines*

Salient Statistics of Cadmium in the United States In Metric Tons[6] of Contained Cadmium

	Production								Exports			Stocks, Dec. 31		
	Primary								Cadmium Metal, Alloys, Dross.			Industry		
		Producers			Imports (for Consumption)									
Year	Metallic	Shipments	Value Mil. $	Cadmium Sulfide[3]	Metallic	Flue Dust[3]	Total	Price[5] $ per lb.	Flue Dust	Value $ Ths.	Consumption[4]	Metallic	Compounds	Distributors
1967	8,699	9,606	24.7	1,536	1,587	1,166	2,753		691	1,669	11,578	1,541	736	
1968	10,651	11,244	28.4	2,457	1,927	1,605	3,532		530	1,400	13,328	1,099	748	
1969	12,646	12,978	40.6	2,439	1,078	1,115	2,193		1,085	3,254	15,062	1,432	822	
1970	9,465	6,848	24.2	2,137	2,492	1,111	3,603		373	997	9,062	3,837	944	
1971	7,930	7,774	9.8	2,236	3,498	1,112	4,610	1.92	66	172	10,872	4,297	975	
1972	8,290	10,480	19.0	2,714	2,422	740	3,162	2.56	1,018	2,363	12,626	2,342	982	
1973	7,502	8,608	23.9	2,824	3,896	348	4,244	3.64	306	598	12,534	1,530	1,122	
1974	6,666	6,500	21.4	2,170	3,970	332	4,302	4.09	62	238	12,100	1,396	330	
1975	4,386	1,636	4.2	1,974	5,236	693	5,929	3.36	396	589	6,736	4,146	267	
1976	4,512	5,968	10.5	1,608	6,822	492	7,314	2.66	504	713	11,864	2,738	326	
1977[2]	4,408	4,050	7.1	1,408	5,140	28	5,168	2.96	236	316	8,960	3,106	158	
1978[6]	1,653	1,957			2,881	—	2,881	2.45	326		4,469	1,152	43	349
1979[1]	1,590	2,369			2,572	—	2,572	2.66	211		4,670	506	37	12
1980														

[1] Estimate. [2] Preliminary. [3] Cd content. [4] Apparent Primary cadmium in all forms. [5] Producer to consumer in 1 to 5 ton lots, average. [6] Data prior to 1978 are in THOUSANDS OF POUNDS. *Source: Bureau of Mines*

Castor Beans

The Foreign Agricultural Service of the USDA, in February 1980, forecast 1979/80 world production of castor beans at 1.0 million tonnes, up from an estimated 892,000 tonnes in 1978/79. (Production in the split year—1979/80 for example—includes the Northern Hemisphere harvest in the late months of the first year shown and Southern Hemisphere and certain Northern Hemisphere harvests in the early months of the second year.) Production in Brazil, one of the two largest producers of castor beans, was estimated to be in excess of 400,000 tonnes, up from an estimated 355,000 tonnes in 1978/79 when drought cut production severely in the major producing state of Bahia. Castor bean production in India, the other major producer, was also expected to be larger in 1979/80 than in the previous season.

World production of castor oil in 1979/80 was forecast by the USDA early in 1980 at 427,000 tonnes, compared with 381,000 tonnes in 1978/79, and 399,000 in 1977/78.

U.S. imports of castor oil in the 1978/79 season ended September 30, 1979, totaled 52,480 tonnes, up 14 percent from the 45,969 tonnes imported during the 1978/79 season. However, U.S. imports of castor oil in calendar year 1979 were 48,676 tonnes, off 6 percent from 1978 imports of 51,947 tonnes.

The major exporter of castor seed should be Thailand, whose only processing plant started operation in September 1979 with a reported crushing capacity of 30,000 tonnes of castor seed, which would produce 13,500 tonnes of castor oil a year. Brazil has been the world's largest exporter of castor oil and was expected to export about 140,000 tonnes in 1980, about the same as in 1979, when exports expanded in response to favorable prices. Future exports of castor oil by Brazil may be affected to some extent by diversion of some exportable supplies to the domestic market, if a mixture of castor oil and alcohol proves feasible as a substitute for a critical shortage of diesel fuel. The major importers of castor oil over the years have been the United States, the Soviet Union, France, and the United Kingdom. Major importers of castor seed have been West Germany, Japan, and France.

World Production of Castorseed In Thousands of Metric Tons

Year	Argentina	Brazil	Ecuador	Ethiopia	India	Romania	Iran	Israel	Mexico	Pakistan	Thailand	U.S.S.R.	Rep. of So. Afr.	United States	World Total
1966	3.7	329.3	10.0	10.9	80.0	20.6	9.0	8.0	9.5	13.2	41.9	68.0	4.0	21.8	758.5
1967	4.2	355.2	10.0	10.9	110.0	16.7	9.0	8.0	9.6	13.0	37.6	81.0	4.2	13.6	909.2
1968	4.2	370.3	10.0	11.3	121.2	8.7	9.0	8.0	9.8	12.0	42.6	81.9	3.2	41.0	911.1
1969	9.5	378.4	17.0	11.8	115.7	17.0	9.0	8.0	5.6	12.0	39.0	61.7	4.9	19.6	855
1970	4.1	348.5	20.0	12.0	123.0	11.8	9.0	8.0	7.0	13.0	53.0	68.0	5.1	8.3	861
1971	6.6	300.0	17.0	12.8	136.1	9.6	9.0	8.0	7.0	13.0	53.0	70.0	4.0	2.6	809
1972	6.6	265.0	20.0	13.4	154.0	9.5	8.0	8.0	7.0	13.0	36.0	53.2	4.5	4.3	754
1973	6.6	420.0	20.0	14.0	175.0	9.9	6.5	8.0	7.0	13.0	40.0	89.0	5.0	4.6	9[illegible]
1974[1]	6.6	540.0	21.0	14.0	235.0	9.5	5.2	8.0	8.0	13.0	42.0	76.0	5.0	.5	1,123
1975[2]	6.6	280.0	16.0	14.0	196.0	10.0	5.2	8.0	8.0	13.0	35.0	50.0	5.0	—	793
1976[2]		160.0			250.0	10.0					35.0	50.0			716
1977[2]															801
1978[2]															969

[1] Preliminary. [2] Estimate. *Source: Foreign Agricultural Service, U.S.D.A.*

Salient Statistics of Castor Oil in the United States In Millions of Pounds

Year Beginning Oct. 1	Supply			Disappearance									No. 1 Braz. N.Y.[2] ¢ Lb.
					Domestic								
	Imports	Stocks Oct. 1	Total	Exports	Per Capita (in Lbs.)	Total	Paint & Varnish	Fatty Acids	Resins & Plastic	Lubricants & Oils	Other Inedible		
1970–1	85.3	118.9	204.2	—	0.53	110.1	5	13	1	6	85		15.5
1971–2	82.5	94.0	176.5	—	0.66	137.9	30	22	13	6	67		17.2
1972–3	87.6	38.6	126.2	—	0.54	113.9	5	6	11	6	85		23.3
1973–4	123.0	12.3	135.3	—	0.55	117.1	7	3	8	6	93		52.6
1974–5[1]	86.2	18.2	104.5	—	0.41	88.6	—	—	5	6	79		44.0
1975–6[1]	116.2	15.9	132.1	—		92.1							31.5
1976–7[1]	117.7	44.5	162.2	—		106.6							33.3
1977–8[1]	264.3	31.0	295.3			104.7							43.4
1978–9[1]		17.5											41.8

[1] Preliminary [2] Tanks, imported–calendar year. *Source: Economic Research Service, U.S.D.A.*

Cattle and Calves

Following four years of inventory decline (16 percent) the liquidation phase of the 1970s cattle cycle apparently ended in 1979. This was the largest reduction in cattle numbers since records began. The January 1, 1980, cattle inventory totaled nearly 111 million head, up only 100,000 head from 1979.

Beef cows on farms and ranches on January 1, 1980, were down slightly from the year-earlier level to about 37 million head, despite a 30 percent reduction in cow slaughter during 1979. The number of intended replacement heifers which actually entered the cattle herd in 1979 was only 6.6 million head, compared to 7.3 million head in 1978.

Cattle numbers have leveled off, but the expansion will not begin until increased numbers of replacement heifers enter the cow herd. Producers indicated they were holding back 5.9 million beef replacement heifers on January 1, 1980, an 8 percent increase over 1979 levels. Some heifers which were in the replacement category on July 1, 1979, apparently were not bred to calve until 1980 and still were reported as heifers in the January 1, 1980, report.

The 1979 calf crop was estimated at 42.8 million head, down 2 percent from the 1978 crop, and about 1.1 million fewer calves than the 1978 calf crop. Yet, this was still the first calf crop to exceed total cattle and calf slaughter since 1975.

Feeder cattle supplies outside feedlots on January 1, 1980, were 1 percent greater than a year earlier. The smaller 1979 calf crop—and larger-than-expected second-half nonfed steer and heifer slaughter—reduced feeder cattle supplies. However, the number of feeder cattle available to go on feed continued above year-earlier levels due to reduced feedlot placements in the second half of 1979.

Fed cattle slaughter declined 8 percent in 1979 from 1978, nonfed steer and heifer slaughter dropped 40 percent, and cow slaughter fell 30 percent. Fed cattle kill increased to 94 percent of total steer and heifer slaughter, up from 92 percent in 1978. Slaughter of fed cattle comprised 76 percent of total cattle slaughter in 1979, compared with 70 percent in 1978. The increased proportion of fed cattle in the slaughter mix and heavier slaughter weights helped to hold the decline in beef production to 4.5 percent less than the decline in slaughter numbers. Calf slaughter in 1979 declined 34 percent from 4.2 million head in 1978 to 2.8 million head in 1979.

Beef production in 1979 was 11.5 percent below 1978 levels and 17.2 percent below the record 1976 production. Commercial cattle slaughter was nearly 15 percent below 1978 numbers and 21 percent below the 1976 level. Average dressed weights for commercial slaughter were the heaviest on record at 632 pounds, 25 pounds heavier than in 1978 and 4 pounds heavier than the previous record set in 1973.

Beef supplies in 1980 were expected to decline another 2 to 4 percent from the 1979 level, marking the fourth consecutive year of decline.

Live beef cattle futures and feeder cattle futures are traded on the Chicago Mercantile Exchange.

World Cattle and Buffalo Numbers In Millions of Head

Year	Argentina	Australia	Brazil	Canada	China	Colombia	France	W. Germany	India	Turkey[1]	Mexico	South Africa	USSR	United Kingdom	United States	World Total[2]
1969	48.3	20.6	92.8	11.5	92.2	19.5	21.6	14.1		15.0	23.6	12.1	95.7	12.1	110.0	1,232
1970	48.4	22.6	78.4	11.8	92.4	20.2	21.7	14.3		14.4	24.9	10.1	95.2	12.3	112.4	1,228
1971	49.8	24.4	81.1	12.2	92.6	20.5	21.7	14.0		13.9	25.1	10.0	99.2	12.4	114.6	1,245
1972	52.3	27.4	85.1	12.3	92.7	21.0	21.7	13.6		13.7	26.4	11.6	102.4	12.9	117.9	1,268
1973	54.8	29.1	86.1	12.6	92.8	22.1	22.6	13.9		14.1	26.8	11.7	104.0	13.8	121.5	1,288
1974	58.0	30.8	88.1	13.2	92.9	23.0	23.9	14.4		14.3	27.5	12.3	106.3	14.8	127.8	1,311
1975	59.6	32.8	94.0	14.0		23.0	24.3	14.4		14.4	28.7	12.3	109.1	14.8	132.0	
1976	61.5	33.4	92.0	14.0		23.8	23.6	14.5	240.5	14.8	28.9	12.8	111.0	13.9	128.0	963
1977	61.9	31.5	91.0	15.7		24.3	23.3	14.5	241.5	15.2	29.3	13.1	110.3	13.7	122.8	958
1978	61.8	29.4	89.0	12.9		25.2	23.4	14.8	242.7	15.6	29.7	13.1	112.7	13.5	116.4	951
1979[3]	60.2	27.1	90.0	12.3		26.1	23.5	15.0	242.5	16.0	29.3	13.3	114.1	13.5	110.9	946
1980[2]	59.5	26.2	93.0	12.4		27.2	23.6	14.9	241.0	16.2	30.1	13.0	115.0	13.5	111.0	949
1981																

[1] Data includes buffaloes. [2] Estimate. [3] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

Commercial Slaughter of Cattle and Calves in the United States[2] In Thousands of Head

	Cattle		Calves				Cattle		Calves		
Year	Federally Inspected	Total[2]	Federally Inspected	Total[2]	Total[2] Cattle and Calves	Year	Federally Inspected	Total[2]	Federally Inspected	Total[2]	Total[2] Cattle and Calves
1969	30,537	35,237	3,637	4,863	40,100	1975	36,904	40,911	3,894	5,209	46,120
1970	30,793	35,025	3,024	4,072	39,097	1976	38,992	42,654	4,438	5,350	48,004
1971	31,419	35,585	2,806	3,689	39,274	1977	38,717	41,856	4,696	5,517	47,373
1972	32,267	35,779	2,421	3,053	38,832	1978[1]	36,948	39,552	3,620	4,170	43,722
1973	30,521	33,687	1,808	2,249	35,936	1979[1]	31,503	33,650	2,498	2,824	36,474
1974	33,319	36,812	2,355	2,987	39,799	1980					

[1] Preliminary. [2] Includes other wholesale and retail slaughter & farm slaughter. *Source: Crop Reporting Board, U.S.D.A.*

CATTLE AND CALVES

Cattle Supply and Distribution in the United States In Thousands of Head

					Livestock Slaughter—Cattle and Calves							
					Commercial							
Year	Cattle & Calves on Farms Jan. 1	Imports	Calves Born	Total Supply	Federally Inspected	Other[2]	All Commercial	Farm	Total Slaughter	Deaths on Farms	Exports	Total Disappearance
1971	114,578	991	46,738	162,307	34,225	5,049	39,274	445	39,730	4,442	93	44,265
1972	117,862	1,186	47,682	166,730	34,688	4,144	38,832	434	39,335	5,126	104	44,565
1973	121,539	1,039	49,194	171,772	32,329	3,607	35,936	477	36,506	6,487	273	43,266
1974	127,778	568	50,873	179,229	35,674	4,125	39,799	722	40,528	6,110	204	46,842
1975	132,028	389	50,183	182,600	40,798	5,322	46,120	750	46,870	6,992	196	54,058
1976	127,980	984	47,440	176,404	43,430	4,574	48,004	722	48,726	5,190	205	54,121
1977	122,810	1,133	46,088	170,031	43,413	3,960	47,373	700	48,073	6,000	107	54,180
1978	116,375	1,253	43,839	161,467	40,568	3,154	43,722	550	44,272	5,680	122	50,074
1979[1]	110,864	732	42,752	154,348	34,001	2,473	36,474	500	36,974	5,600	66	42,766
1980[1]	110,961											

[1] Preliminary. [2] Wholesale and retail. *Source: Economic Research Service, U.S.D.A.*

Number of Cattle & Calves on U.S. Farms & Ranches on Jan. 1, by Classes In Thousands of Head

		Cows & Heifers That Have Calved			Heifers 500 lbs. & Over						
Year	Total Cattle & Calves	Beef Cows	Milk Cows	Total	For Beef Cow Replacement	For Milk Cow Replacement	Other Heifers	Total	Steers 500 lbs. & Over	Bulls 500 lbs & Over	Heifers, Steers & Bulls Under 500 lbs.
1971	114,578	37,877	11,909	49,786	6,664	3,843	6,113	16,620	15,610	2,327	30,235
1972	117,862	38,807	11,778	50,585	6,987	3,828	6,399	17,214	15,999	2,376	31,688
1973	121,539	40,918	11,624	52,541	7,436	3,874	6,434	17,743	16,555	2,466	32,229
1974	127,788	43,008	11,286	54,293	8,226	3,942	6,821	18,988	17,802	2,645	33,942
1975	132,028	45,472	11,211	56,682	8,879	4,095	6,509	19,482	16,373	2,987	36,302
1976	127,980	43,888	11,087	54,974	7,196	3,958	7,393	18,546	17,083	2,845	34,531
1977	122,810	41,389	11,035	52,424	6,529	3,888	8,057	18,473	16,885	2,665	32,363
1978	116,375	38,809	10,939	49,748	5,845	3,896	7,970	17,710	16,779	2,544	29,595
1979[1]	110,864	37,003	10,839	47,843	5,517	3,936	7,433	16,885	16,321	2,401	27,413
1980[1]	110,961	36,983	10,810	47,794	5,931	4,166	7,130	17,226	15,908	2,490	27,543

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Condition[1] of Pasture and Range Feed in the United States, on First of Month In Percent of Normal

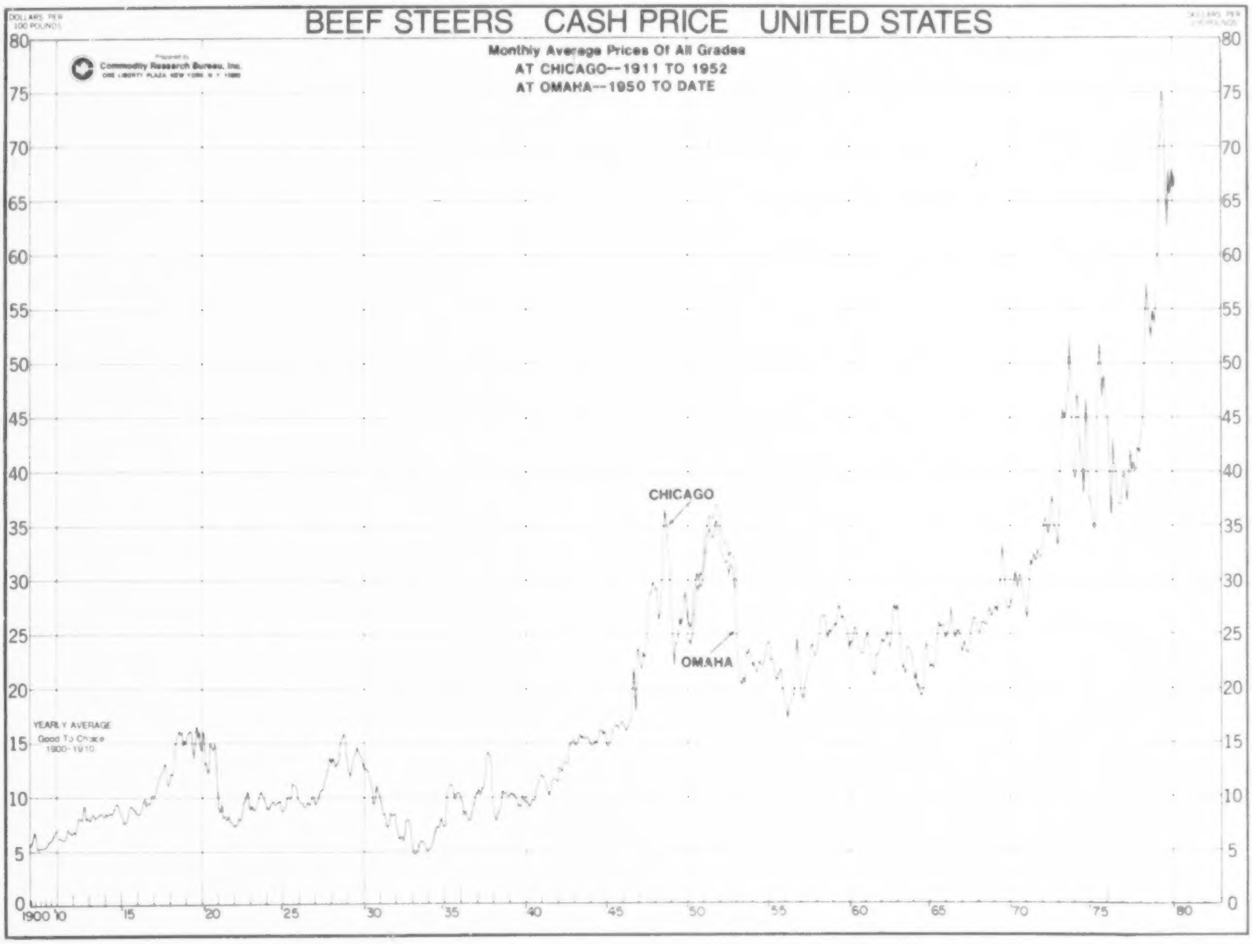
Year	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1971	70	75	80	80	77	77	80	83	N.A.
1972	80	78	84	82	81	81	80	81	80
1973	86	87	87	84	82	80	82	83	81
1974	79	81	84	82	66	71	75	70	71
1975	77	76	86	88	80	76	80	77	74
1976	73	79	77	75	70	61	63	66	64
1977	68	76	74	68	64	71	76	75	72
1978	68	75	85	85	77	75	77	73	70
1979	75	84	87	86	84	86	81	77	75
1980	76	80							

[1] Indicates current supply of feed for grazing on non-irrigated pastures & ranges relative to that expected from existing stands under very favorable weather conditions. [80 & over, good to excellent; 65–79, poor to fair; 50–64, very poor; 35–49, severe drought; under 35, extreme drought.] *Source: Statistical Reporting Service, U.S.D.A.*

Cattle & Calves on U.S. Farms on January 1, by Leading States In Thousands of Head

Jan. 1	Calif.	Colo.	Ill.	Iowa	Kans.	Minn.	Miss.	Mo.	Mont.	Nebr.	Ohio	Okla.	So. Dak.	Texas	Wis.
1971	4,680	3,414	3,300	7,403	6,497	3,998	2,254	4,989	3,165	6,457	2,072	5,085	4,322	13,200	4,158
1972	4,662	3,610	3,400	7,773	6,757	3,998	2,322	5,238	3,165	6,780	2,113	5,441	4,408	13,464	4,241
1973	4,710	3,756	3,240	7,770	6,800	4,038	2,415	5,550	3,197	6,865	2,134	5,660	4,496	15,100	4,283
1974	5,250	3,744	3,250	7,660	6,990	4,240	2,610	6,330	3,380	7,410	2,150	6,020	5,000	16,250	4,400
1975	5,200	3,375	3,200	7,350	6,400	4,430	3,000	6,800	3,340	6,900	2,350	6,500	4,950	16,600	4,640
1976	5,000	3,250	3,400	7,500	6,450	4,430	2,723	6,600	3,150	6,550	2,305	6,400	4,500	15,600	4,550
1977	4,750	3,030	3,200	7,650	6,400	4,000	2,670	6,400	2,980	6,450	2,205	5,650	3,650	15,800	4,275
1978	4,430	3,180	2,950	7,800	6,000	3,700	2,130	6,000	2,680	6,500	2,025	5,900	3,925	14,500	4,100
1979	4,700	3,090	2,850	7,300	6,200	3,650	1,790	5,550	2,607	6,450	1,850	5,300	3,750	13,900	4,100
1980[1]	4,550	2,975	2,700	7,150	6,100	3,750	1,810	5,350	2,645	6,400	1,925	5,500	4,010	13,200	4,280

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*



BEEF STEERS CASH PRICE UNITED STATES

Monthly Average Prices Of All Grades
AT CHICAGO--1911 TO 1952
AT OMAHA--1950 TO DATE

Number of Cattle and Calves on Feed[2] on Jan. 1 in the United States In Thousands of Head

Jan. 1	Arizona	California	Colorado	Illinois	Indiana	Iowa	Kansas	Minnesota	Missouri	Nebraska	Ohio	South Dakota	Texas	Wisconsin	Total U.S.
1967	373	984	609	791	311	2,025	586	557	398	1,308	341	390	674	149	11,268
1968	385	902	628	721	336	1,924	610	585	426	1,354	341	406	810	143	11,417
1969	442	968	711	786	349	2,213	766	556	442	1,430	324	361	1,075	154	12,534
1970	510	1,031	795	755	349	2,213	892	589	402	1,477	318	361	1,417	146	13,190
1971	524	1,001	888	649	314	1,992	916	548	342	1,422	308	339	1,480	150	12,770
1972	539	1,045	983	662	327	2,112	1,100	537	373	1,550	320	363	1,781	144	13,912
1973	655	1,181	1,050	585	276	1,922	1,250	494	310	1,581	300	378	2,245	143	14,432
1974	609	1,209	930	530	263	1,715	1,160	464	250	1,525	280	381	2,205	136	13,642
1975	319	688	755	500	250	1,200	920	380	200	1,160	290	345	1,327	135	10,167
1976	510	960	925	630	285	1,530	1,340	430	260	1,390	320	365	1,882	168	12,943
1977	361	812	915	620	290	1,520	1,315	340	255	1,580	325	370	1,710	130	11,948
1978	422	845	1,020	650	315	1,690	1,400	400	220	1,700	295	365	1,850	130	12,811
1979	490	796	1,080	510	280	1,620	1,440	400	180	1,800	225	340	2,000	106	12,681
1980[1]	420	764	960	460	270	1,390	1,270	390	120	1,680	180	350	1,970	112	11,739
1981															

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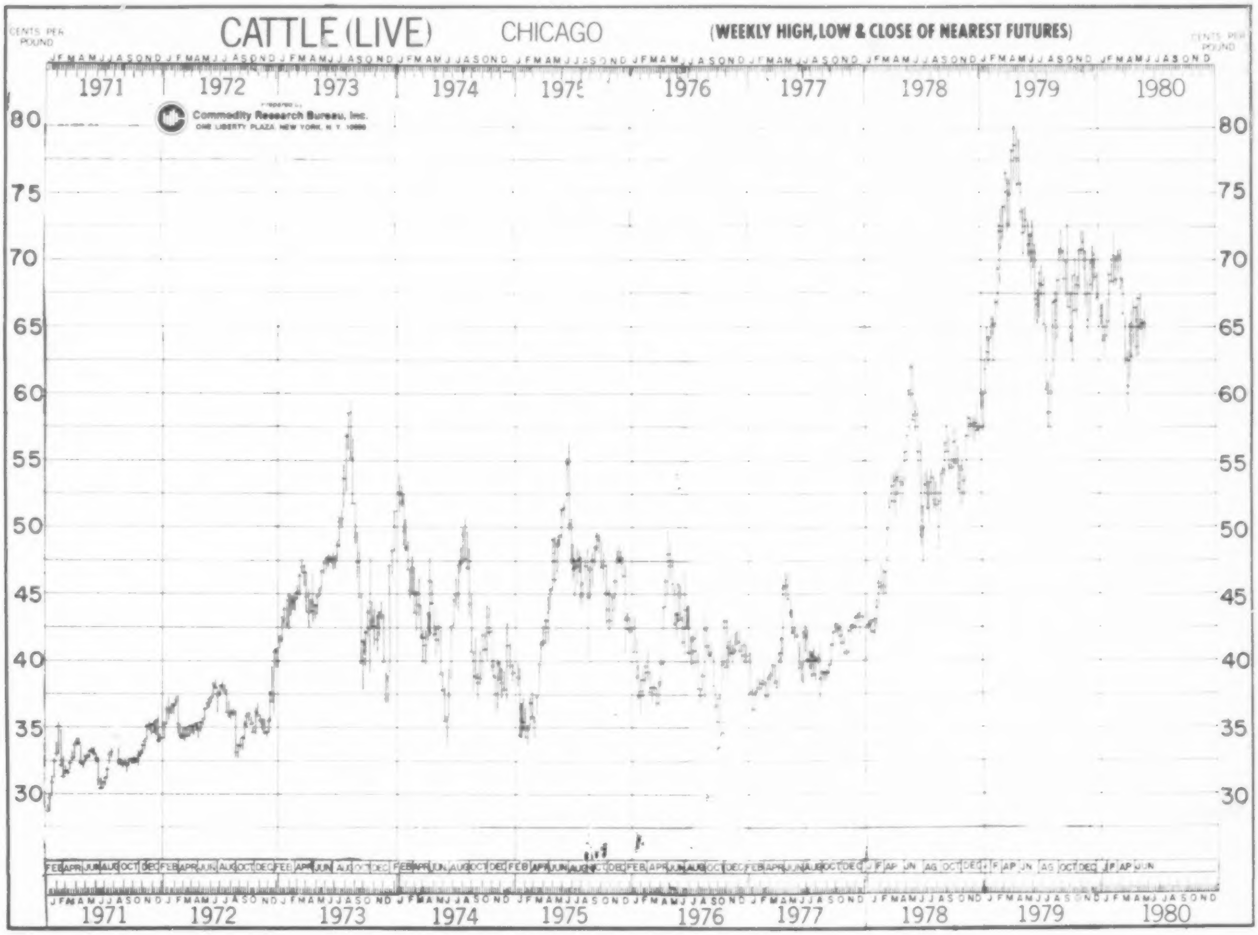
[1] Preliminary. [2] Cattle & calves being fattened for slaughter market on grain or other concentrates & are expected to produce a carcass that will grade good or better. *Source: Crop Reporting Board, U.S.D.A*



Farm Value, Income & Wholesale Prices of Cattle & Calves

	United States			At Omaha									Canada (At Winnipeg)[5]		
	Farm Value of All Cattle—Jan. 1		Gross Income From C. & C.[2]	Steers[3]			Heifers		Choice Feeder Steers at K.C.	Cows, Utility Omaha	Vealers, Choice-So. St. Paul	Argentina[4]	Over 1,050 Lbs. Choice	Up to 1,050 Lbs. Good	Stockers & Feeders Good
Year	Per Head $	Total Million $	$	Prime	Choice	Good	Choice	Good	Dollars Per 100 Pounds						
1967	149.0	16,212	10,726	26.10	25.29	23.74	25.40	24.62		17.22	31.61	9.59	25.56	24.92	24.54
1968	148.0	16,241	11,447	27.73	26.87	24.79	26.89	25.96		17.94	33.75	9.19	25.66	25.04	24.92
1969	158	17,390	12,781	30.62	29.45	27.14	29.56	28.53		20.29	38.90	9.29	27.86	27.02	29.71
1970	179	20,160	13,935	30.22	29.36	27.04	29.42	28.51		21.32	44.82	12.70	29.75	28.80	31.61
1971	184	21,113	15,247	33.38	32.39	29.38	32.54	31.46		21.62	46.30	18.79	32.68	31.86	37.12
1972	208	24,520	18,579	36.67	35.78	33.43	35.60	34.72		25.21	55.09	27.25	36.19	35.43	42.20
1973	252	30,584	22,814	45.61	44.54	42.01	44.25	43.11	53.17	32.82	64.08	39.88	44.56	43.29	47.38
1974	293	37,477	18,350	43.10	41.89	38.71	42.11	40.97	37.88	25.56	49.63	39.74	49.62	47.88	42.86
1975	159	21,000	17,982	41.39	44.61	39.45		43.12	33.91	21.09	40.44	63.13	41.96	40.43	33.26
1976	190	24,335	19,803		39.11	35.87		37.98	39.40	25.31	45.18				
1977[1]	206	25,252	20,704		40.38	36.70		38.96	40.18	25.32	48.19				
1978[1]	232	27,055	28,653		52.34	47.98		50.30	58.78	36.78	69.24				
1979[1]	403	[illegible]			67.67	62.85		61.20	97.66	50.10	91.41				
1980[1]	502	[illegible]													

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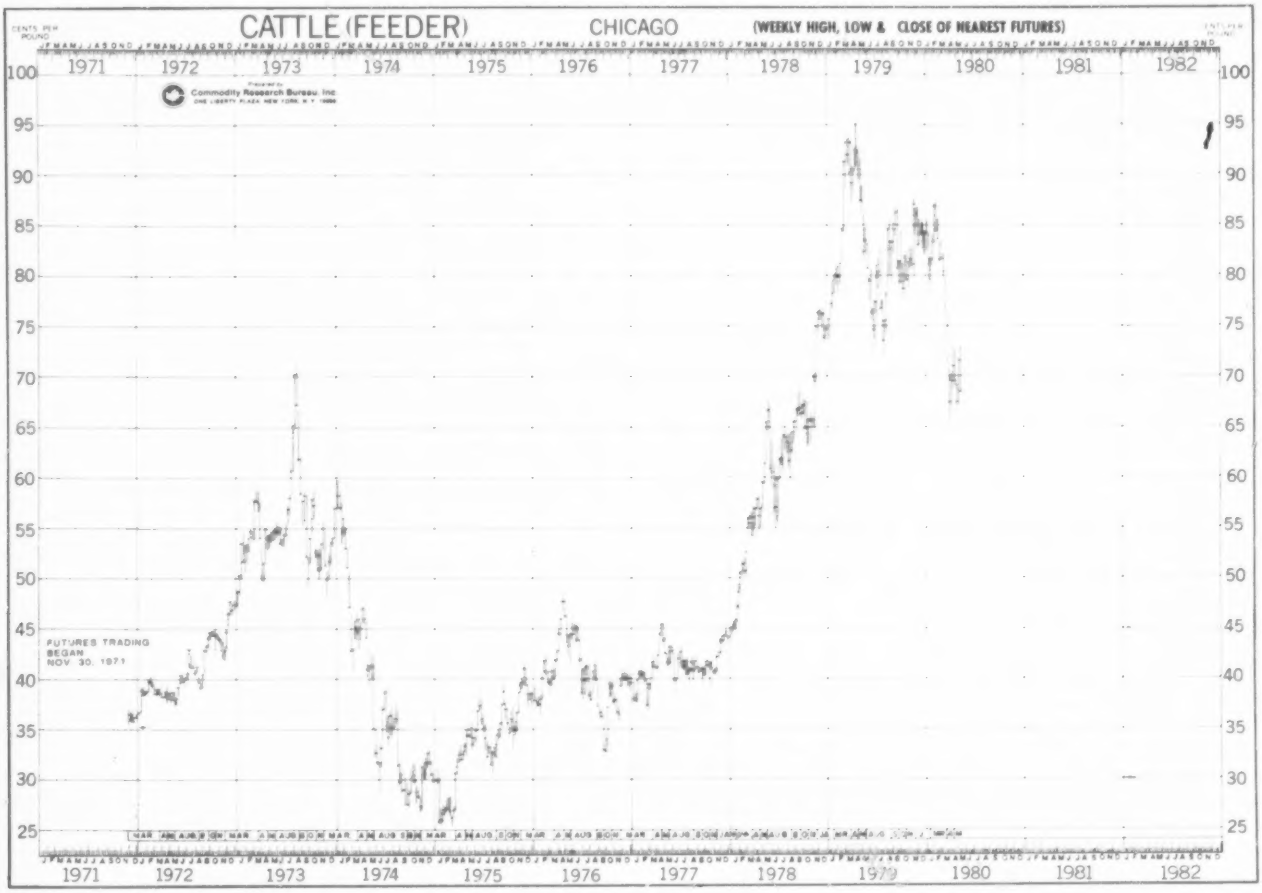
[1] Preliminary. [2] Excludes interfarm sales & Gov't. payments. Cash receipts from farm marketings plus value of farm home consumption. [3] Weighted average prices of beef steers, sold out of first hands for slaughter. [4] Argentine special for chilling, at Liniers market near Buenos Aires. Prices converted to U.S. $ at current rate of exchange. [5] Prices converted to U.S. $ at current rate of exchange. *Source: Economic Research Service, U.S.D.A.*



Average Wholesale Prices of Beef Steers at Omaha, Choice (900–1100 Lbs.) In Dollars Per 100 Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov.	Dec.	Average
1973	40.65	43.54	45.65	45.03	45.74	46.76	47.66	52.94	45.12	41.92	40.14	39.36	44.54
1974	47.14	46.38	42.85	41.53	40.52	37.98	43.72	46.62	41.38	39.64	37.72	37.20	41.89
1975	36.34	34.74	36.08	42.80	49.48	51.82	50.21	46.80	48.91	47.90	45.23	45.01	44.61
1976	41.18	38.80	36.14	43.12	40.62	40.52	37.92	37.02	36.97	37.88	39.15	39.96	39.11
1977	38.38	37.98	37.28	40.08	41.98	40.24	40.94	40.11	40.35	42.29	41.83	43.13	40.38
1978	43.62	45.02	48.66	52.52	57.28	55.38	54.59	52.40	54.26	54.93	53.82	55.54	52.34
1979	60.35	64.88	71.04	75.00	73.99	68.53	67.06	62.74	67.84	65.81	67.00	67.78	67.67
1980	66.32	67.44	66.80	63.07									

Source: Futures Industry Association, Inc.

Average Prices of Steers (Stocker & Feeder) Kansas City In Dollars Per 100 Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov.	Dec.	Average
1973	44.24	48.06	50.90	50.67	50.79	49.38	53.23	56.40	49.73	49.84	47.63	44.42	49.13
1974	48.70	45.30	43.65	42.49	37.24	33.16	34.44	33.26	29.80	29.80	27.97	28.05	36.49
1975	26.79	26.80	27.86	30.73	34.87	35.30	32.53	32.93	35.98	36.74	36.77	36.87	33.42
1976	36.66	36.95	38.82	43.49	42.38	40.24	37.58	37.55	34.03	36.07	35.07	35.19	37.65
1977	34.87	36.54	38.29	41.33	39.88	38.22	38.90	39.61	39.04	40.18	38.79	39.71	38.74
1978	42.85	46.89	51.39	53.81	59.85	57.42	58.67	58.22	60.23	62.06	60.75	64.19	56.16
1979	69.95	75.61	82.55	86.83	82.20	75.00	72.07	72.37	77.81	76.34	78.92	77.55	77.27
1980	76.52	78.35	72.67	66.89									

Source: Economic Research Service, U.S.D.A.

CATTLE AND CALVES

Federally Inspected Slaughter of Cattle in the United States In Thousands of Head

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	2,653	2,318	2,477	2,545	2,493	2,615	2,642	2,538	2,723	2,752	2,424	2,611	30,793
1971	2,569	2,299	2,681	2,545	2,536	2,797	2,725	2,720	2,788	2,667	2,564	2,528	31,419
1972	2,556	2,457	2,707	2,471	2,807	2,833	2,494	2,926	2,789	2,909	2,705	2,615	32,267
1973	2,810	2,424	2,620	2,169	2,694	2,563	2,441	2,366	2,362	2,866	2,687	2,519	30,521
1974	2,794	2,303	2,621	2,643	2,793	2,621	2,821	2,876	2,787	3,230	2,929	2,902	33,319
1975	3,152	2,778	2,826	2,889	2,851	2,898	3,085	3,141	3,319	3,584	3,116	3,267	36,904
1976	3,403	3,032	3,492	3,053	2,980	3,294	3,220	3,388	3,435	3,336	3,154	3,205	38,992
1977	3,272	3,041	3,330	3,033	3,054	3,374	3,085	3,489	3,320	3,282	3,244	3,200	38,717
1978	3,238	3,046	3,243	2,969	3,215	3,052	2,869	3,247	3,027	3,180	3,029	2,834	36,948
1979	3,090	2,559	2,670	2,366	2,622	2,554	2,492	2,860	2,399	2,837	2,593	2,470	31,844
1980	2,739	2,486	2,403										

Source: Crop Reporting Board, U.S.D.A.

Federally Inspected Slaughter of Calves & Vealers in the U.S. In Thousands of Head

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	290	239	290	263	220	210	231	231	264	266	245	276	3,024
1971	247	237	299	248	203	207	205	220	239	231	233	238	2,807
1972	226	217	255	185	179	166	164	208	197	211	209	202	2,421
1973	209	169	188	139	131	117	118	115	128	168	170	156	1,808
1974	181	154	180	172	167	137	164	202	212	279	251	254	2,355
1975	284	250	276	284	270	276	344	345	385	443	357	381	3,894
1976	369	327	415	353	304	339	346	373	409	394	388	420	4,438
1977	408	380	457	389	353	368	352	411	403	392	398	387	4,696
1978	368	336	386	304	288	271	261	304	275	287	274	267	3,620
1979	265	212	245	200	188	162	190	216	193	225	210	192	2,498
1980	212	187	202										

Source: Crop Reporting Board, U.S.D.A.

Average Price Received by Farmers for Beef Cattle In Dollars Per 100 Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
1970	26.40	27.40	29.00	28.70	27.90	28.10	28.10	27.10	26.80	26.50	25.10	24.40	27.10
1971	26.10	28.90	28.80	29.10	29.50	28.90	28.50	29.30	29.20	29.30	29.90	30.30	29.00
1972	31.80	32.90	32.50	32.20	33.30	34.50	34.60	33.60	34.00	34.40	33.00	34.80	33.50
1973	37.90	40.70	43.80	42.80	43.60	43.90	44.60	51.70	46.70	42.70	39.60	37.70	43.00
1974	44.20	43.60	40.70	39.20	37.30	32.60	35.30	37.00	32.60	30.60	28.20	27.70	35.80
1975	27.40	26.80	27.80	31.60	35.30	36.80	35.20	32.30	34.00	33.40	32.30	33.50	32.20
1976	32.80	33.90	33.40	38.00	37.10	36.40	33.60	33.00	32.30	32.20	31.20	32.40	33.70
1977	32.20	33.20	33.80	35.30	36.30	34.00	34.90	34.50	34.70	35.10	34.30	35.50	34.40
1978	37.70	40.50	44.00	47.20	50.50	51.10	50.10	49.30	52.20	53.20	51.90	54.60	48.50
1979[2]	59.80	64.10	70.20	73.40	71.50	66.90	65.60	61.30	66.90	65.10	64.20	64.70	66.06
1980[2]	63.90	66.60	64.30	60.40									

[1] Weighted average by quantities sold. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Average Price Received by Farmers for Calves In Dollars Per 100 Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
1970	33.60	35.10	36.40	35.90	35.80	35.30	34.60	34.00	33.80	34.00	33.20	32.70	34.50
1971	33.50	35.70	35.50	35.40	36.00	35.60	35.10	36.40	36.30	36.90	37.80	38.40	36.10
1972	39.70	41.20	41.80	41.50	42.90	44.00	45.10	45.00	45.60	47.10	46.80	46.60	43.90
1973	49.40	53.00	58.50	56.60	58.90	58.50	59.20	68.20	61.20	57.70	52.80	50.10	57.00
1974	54.10	53.30	49.60	47.40	42.70	37.40	36.00	34.30	30.10	27.70	25.70	25.00	38.60
1975	23.90	24.50	24.80	26.90	29.10	29.10	27.70	25.40	26.90	26.60	28.30	30.00	26.90
1976	30.80	33.80	34.80	38.20	38.80	37.70	34.90	34.20	32.90	33.00	32.10	32.80	34.10
1977	33.40	35.70	36.60	38.20	38.40	35.80	36.40	37.10	38.00	37.20	36.80	37.50	36.90
1978	41.00	44.90	50.00	53.70	59.50	58.70	60.10	61.90	65.70	66.40	67.20	72.10	59.10
1979[2]	78.10	85.50	93.80	98.20	96.70	90.20	90.00	84.60	91.60	86.70	85.10	84.40	88.59
1980[2]	85.60	90.80	83.20	76.80									

[1] Weighted average by quantities sold. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Cement

U.S. production of portland, masonry, and other cement in 1979 totaled 83.0 million tons, according to preliminary U.S. Bureau of Mines data, a little less than 1978 production. One State agency and 57 companies operated 162 plants in 40 states to produce 79 million tons of portland cement, 4 million tons of masonry cement, and minor quantities of calcium aluminate cement. In addition, 2 companies in Puerto Rico produced 1.4 million tons of portland cement.

Energy conservation was a major concern in 1979 for cement producers, with conversions to coal and coke as primary fuel being the dominant recourse. Coal-burning facilities of cement plants increased from 41 percent of industry capacity in 1972 to about 75 percent in 1979 and will probably exceed 90 percent by 1990. Energy is estimated to account for 35 to 45 percent of cement production costs.

Shipments of cement from U.S. and Puerto Rican plants in 1979 totaled an estimated 85 million tons, slightly less than the revised total of 86.6 million for the previous year. As a chief binding agent in concrete and mortars, 67 percent was used for ready-mixed concrete; 14 percent for concrete products such as block, pipe, and prestressed precast concrete; 8 percent by building material dealers; 5 percent by highway contractors; and 6 percent by other contractors and government agencies, and for miscellaneous uses. From a 1978 base, demand for cement is expected to increase at an average annual rate of 2 to 3 percent through 1985.

Environmental concerns have resulted in virtually every U.S. cement manufacturer incorporating dust collectors or electrostatic precipitators to control atmospheric emissions of possible contaminants. Air pollution control has become a major item in cement plant construction, renovation, and maintenance.

While there are substitutes (such as aluminum, steel, fiberglass, wood, stone, and clay products) in construction materials, concrete is expected to continue as the mainstay of construction, increasing in use as substitute materials become increasingly more expensive.

World Production of Hydraulic Cement by Selected Countries In Millions of Short Tons[1]

Year	Belgium	Brazil	Canada	China	France	W. Germany	India	Italy	Japan	Poland	Spain	Rep. of So. Afr.	Un. Kingdom	United States	U.S.S.R.	World Total
1967	34.1	37.5	42.5	46.9	143.0	185.8	68.6	154.0	251.9	65.3	79.0	23.5	103.0	385.6	497.0	2,813
1968	33.4	42.7	43.4	52.7	150.0	195.9	70.0	173.1	281.3	68.0	88.5	25.8	104.7	512.0	512.8	3,010
1969	36.8	45.9	43.9	58.6	161.5	205.7	77.7	183.8	301.3	69.4	95.7	29.9	102.2	416.9	526.5	3,185
1970[3]	7.4	9.9	7.9	11.0	32.0	42.2	14.9	36.5	63.0	13.4	18.4	6.3	18.8	74.6	105.0	629.6
1971	7.6	10.8	9.1	25.3	31.9	45.2	16.4	35.1	65.5	14.4	18.9	6.5	19.5	80.3	110.6	679.9
1972	7.8	12.5	10.0	25.4	33.0	47.6	17.4	36.9	73.1	15.4	21.6	6.7	19.9	84.6	115.0	723.8
1973	7.8	14.8	11.1	27.6	33.9	45.2	16.5	40.0	86.1	17.1	24.7	7.6	22.0	87.6	120.7	773.8
1974	8.4	16.4	11.4	27.6	35.6	39.7	15.7	40.0	80.6	18.5	24.5	8.0	19.6	82.9	126.9	775.2
1975	7.6	19.2	11.0	33.1	32.6	36.9	17.9	37.7	72.2	20.4	26.6	7.9	18.6	69.7	134.5	774.0
1976	8.3	21.1	10.6	33.1	32.4	37.6	20.6	40.0	75.7	21.8	27.8	7.8	17.4	74.5	137.0	810.7
1977[1]	8.6	20.3	10.6	44.1	31.7	35.5	21.0	42.1	80.6	23.5	30.9	7.2	17.0	80.1	140.0	856.9
1978[2]				50	35	40		40	90		35		20	85	150	930
1979[2]				50	35	40		40	90		30		20	84	150	900
1980																

[1] Preliminary. [2] Estimate. [3] Data Prior to 1970 are in MILLIONS OF BARRELS (376-pound Barrels).
Source: Bureau of Mines

Salient Statistics of Cement in the United States

Year	Production			Capacity Used[3]	Shipments From Mills		Average Value $ Per Ton	Stocks at Mills Dec. 31	Imports[5]	Exports[5]	Apparent Consumption	Raw Materials Used in Producing Portland Cement			
	Portland	Others [2]	Total		Total	Value[4]						Cement Rock	Limestone[6]	Clay & Shale	Total (All)
	Million Tons[5]			%	Mil. Tons[5]	$ Mil.		Million Tons[5]				Mil. Short Tons			
1967	369.4	8.5	377.9	72.7	381.8	1,211	3.17	41.5	5.9	1.0	386.8	21.5	80.0	11.6	120.5
1968	394.9	8.4	403.3	77.6	405.9	1,295	3.19	42.0	7.3	.9	412.2	23.8	83.8	12.5	128.1
1969[8]			76.7	78.7	78.6	1,354	17.22	7.1	1.7	.1	80.3	23.3	84.2	12.2	128.1
1970	73.2	2.9	74.3	88.4	74.6	1,336	17.91	7.6	2.5	.1	75.9	22.8	83.2	11.8	127.2
1971	77.0	3.3	78.3	87.7	80.4	1,528	19.01	6.4	3.1	.1	81.5	23.1	85.9	11.8	130.3
1972	80.7	3.8	82.6	90.6	83.3	1,724	20.69	7.0	4.9	.1	85.0	25.9	84.9	12.2	136.9
1973	83.6	1.9	85.5	83.2	88.7	1,975	22.28	5.5	6.6	.3	90.7	26.1	85.7	12.0	138.2
1974	79.5	1.4	80.9	74.8	81.0	2,151	26.54	7.5	5.7	.2	82.9	23.4	87.7	11.8	137.2
1975	66.8	1.3	68.1	62.9	69.1	2,159	31.25	6.9	3.6	.4	70.1	17.9	76.4	10.1	114.9
1976	71.2	1.8	73.0	68.4	73.7	2,510	34.07	7.2	3.1	.3	74.1	20.2	81.3	10.7	122.6
1977[1]	76.3	2.3	78.6	81.6	80.2	2,932	36.54	6.0	4.0	.2	81.5	25.1	81.5	10.8	128.0
1978[7]			84.0		86.6	3,545	40.94	5.3	6.4	.1	87.6				
1979[7]			83.0		85.0	3,995	47.00	5.5	9.4	.1	91.0				
1980															

[1] Preliminary. [2] Masonry, natural & pozzolan (slag-line). [3] At Portland-cement mills. [4] Value received f.o.b mill, excluding cost of containers. [5] Hydraulic cement. [6] Including oyster shells. [7] Estimate. [8] Data prior to 1969 are in barrels.
Source: Bureau of Mines

CEMENT

U.S. Portland Cement Output Index (Unadjusted) (1947–49=100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	110.3	102.5	148.4	167.0	207.9	226.8	225.3	266.5	234.1	239.2	182.1	127.4	186.5
1968	101.5	122.1	156.7	206.0	223.7	221.1	250.0	263.9	238.5	272.7	185.2	136.2	198.1
1969	114.2	120.2	156.2	207.3	236.0	245.4	253.4	257.2	259.9	260.7	184.2	155.4	204.2
1970	101.7	120.8	153.9	196.9	217.6	239.0	253.4	249.1	228.2	234.1	178.6	158.2	194.3
1971	104.1	116.9	170.3	217.5	227.0	265.2	253.7	270.0	255.3	255.7	215.1	156.8	209.0
1972	134.0	138.2	192.8	205.1	252.6	269.6	253.0	304.5	264.2	275.4	198.6	144.2	219.4
1973	143.3	148.5	201.0	217.1	277.9	282.7	285.0	319.3	259.4	301.0	230.6	158.5	235.4
1974	132.6	147.3	189.4	229.7	257.4	258.4	256.0	270.5	248.3	271.9	183.8	138.7	215.3
1975	114.8	105.0	131.4	172.1	204.0	213.8	232.3	234.3	232.7	248.8	169.5	136.3	182.3
1976	106.2	122.7	168.0	198.2	205.5	238.7	230.9	251.1	233.6	223.7	190.4	138.6	192.3
1977	83.5	125.0	187.5	213.6	238.3	269.5	243.9	272.3	250.9	258.5	205.1	156.3	208.7
1978	91.7	110.8	188.1	226.5	268.6	297.8	261.6	301.2	266.4	289.9	226.4	173.2	225.2
1979	99.5	111.5	193.9	214.4	267.0	287.9	270.9	301.4	257.8	296.4			
1980													

Source: Portland Cement Association

Shipments of Finished Portland Cement from Mills in the United States In Millions of Barrels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total[1]
1967	18.5	17.1	24.8	27.9	34.8	37.9	37.5	44.6	39.1	40.0	30.6	21.3	374.0
1968	17.2	20.2	26.2	34.4	37.4	36.9	41.8	44.1	39.9	45.4	31.0	22.8	397.4
1969	19.1	20.1	26.1	34.6	39.3	41.0	42.4	43.0	43.1	43.6	31.2	26.0	409.8
1970	17.1	20.2	25.7	32.9	36.4	39.7	42.3	41.6	38.2	39.1	29.9	26.4	390.5
1971	17.3	19.4	28.3	36.2	37.8	44.1	42.2	45.1	42.6	43.1	36.0	26.2	420.2
1972	22.4	23.9	32.2	34.6	42.2	45.0	42.3	50.4	44.4	46.0	33.2	24.1	440.5
1973	23.9	24.8	33.6	36.1	46.5	47.2	47.6	53.1	43.4	50.2	38.6	26.5	470.5
1974	22.2	24.6	31.8	38.6	43.1	43.4	42.7	45.2	41.6	45.5	30.7	23.2	431.5
1975	19.2	17.6	21.8	28.8	34.1	36.3	38.9	39.2	38.9	41.7	28.3	22.8	367.4
1976	17.7	20.5	28.1	33.1	34.5	39.9	38.6	41.8	38.9	37.4	31.7	23.2	385.8
1977	14.0	20.9	31.3	35.7	40.2	45.1	40.5	45.5	42.0	43.2	34.5	26.1	418.9
1978	15.3	18.5	31.5	37.2	44.9	49.8	43.8	50.3	44.6	48.5	37.9	29.0	451.3
1979	16.6	18.7	32.4	35.8	44.6	48.2	45.3	50.3	43.1	49.6	38.1	29.2	451.5
1980													

[1] Does not necessarily agree with monthly figures. These are compiled from producers' annual reports and are final.
Source: Bureau of Mines

Average Wholesale Price of Portland Cement As a 1967 = 100 Base Index[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec	Average
1967	3.433	3.422	3.420	3.417	3.410	3.407	3.407	3.407	3.407	3.407	3.407	3.378	3.410
1968	3.436	3.467	3.467	3.468	3.468	3.468	3.468	3.468	3.468	3.468	3.469	3.469	3.465
1969	3.557	3.564	3.580	3.565	3.565	3.565	3.565	3.565	3.566	3.566	3.566	3.566	3.566
1970	3.737	3.735	3.734	3.734	3.741	3.741	3.741	3.741	3.741	3.741	3.741	3.733	3.738
1971	3.983	3.963	3.957	3.958	3.958	3.958	4.059	4.088	4.092	4 092	4.094	4.094[2]	4.025
1972[1]	127.8	128.1	128.1	131.5	131.8	131.9	132.1	134.0	134.2	134.2	134.3	134.3	131.9
1973	134.4	134.4	135.3	138.4	137.6	137.6	137.9	137.9	137.9	138.2	138.3	138.3	137.2
1974	149.5	151.2	151.7	155.5	155.8	156.2	169.8	169.9	170.3	171.1	171.1	171.1	161.9
1975	187.0	189.3	189.4	191.9	193.1	193.1	195.2	195.0	196.5	196.3	196.1	196.1	193.3
1976	203.4	204.0	204.0	212.0	212.0	212.1	214.7	214.7	214.7	214.5	214.5	214.6	211.3
1977	221.1	221.4	221.4	225.4	227.8	227.8	228.8	229.0	229.0	228.9	228.7	228.7	226.5
1978	240.6	240.9	241.1	248.6	248.6	248.6	251.7	254.8	255.7	256.2	253.7	253.7	249.5
1979	272.2	276.4	277.7	280.4	280.4	281.0	282.8	282.9	282.9	282.9	282.9	283.6	280.5
1980	302.8	303.2											

[1] Prior to 1972 prices are $ per barrel. [2] Price index for Dec. 1971 is 127.8
Source: Bureau of Labor Statistics (1322-0131.16)

Cheese

Cheese production in the U.S. continued to expand in 1979 and early 1980. Preliminary estimates indicate production of American cheese increased to 2,187 million pounds in 1979 from 2,074 million in 1978, while output of other types of cheese increased to 1,522 million pounds from 1,445 million. An additional 1.5 billion pounds of milk went into cheese production in 1979.

Commercial use of American and other types of cheese also rose in 1979 by 2.2 percent and 4.2 percent, respectively, to 2,111 million and 1,725 million pounds. Commercial use was expected to continue to grow in 1980, but at a slower rate. Per capita cheese consumption rose 3 percent in 1979 to 17.7 pounds, with most of the gain coming from other-than-American cheese. Commercial stocks of American cheese totaled 398.8 million pounds on February 1, 1980, up 12 percent from year-earlier holdings. Wholesale prices of American cheese in 40-pound blocks were a little above the support price of $1.24 a pound. The Commodity Credit Corp. bought 40.2 million pounds of American cheese in 1979, slightly more than in 1978, but uncommitted CCC stocks of cheese increased sharply to 33.3 million pounds as of March 31, 1980, from 200,000 pounds a year earlier.

The CCC purchase prices for the marketing year ending September 30, 1980, were increased on April 1, 1980, to 132.50 cents a pound for 40-pound blocks of U.S. Grade A cheddar and to 129.50 cents a pound for 500-pound barrels of U.S. Extra Grade.

The U.S. imported more than 248 million pounds of cheese in 1979. Imports of quota-type cheese increased 7 percent, due to larger offerings of Swiss-type cheeses entering at prices less than 7 cents a pound above the U.S. support price. Importers increased shipments by 14 percent in December in anticipation of new import quotas that went into effect on January 1, 1980. In response to those quotas, the European Economic Community reduced its export subsidies for several varieties shipped to the U.S. that compete with U.S.-produced cheeses.

World Cheese (Total[1]) Production In Millions of Metric Tons[3]

Year	Argentina	Australia	Canada	Czechoslovakia	Denmark	France	W. Germany	Italy	Netherlands	New Zealand	U S S R	Sweden	Switzerland	United Kingdom	United States
1967	385	156	192	128	273	1,504	362	997	601	259		132	227	269	1,913
1968	392	163	200	138	233	1,573	387	855	590	231		129	210	266	1,944
1969	395	161	207	137	240	1,316	590	860	606	219	950	127	180	265	1,990
1970	357	172	215	140	244	1,402	600	872	624	228	1,054	133	184	288	2,204
1971[3]	188	78	112	77	120	821	517	401	306	108	463	66	90	162	1,077
1972	205	81	163	80	131	871	545	424	322	104	483	66	96	184	1,181
1973	206	93	165	85	124	885	558	435	333	101	536	68	97	182	1,218
1974	211	96	130	86	145	917	595	543	376	89	565	75	100	215	1,333
1975	226	99	121	90	147	943	618	529	375	89	559	81	104	239	1,275
1976	240	113	125	85	152	970	650	537	382	105	655	84	111	204	1,506
1977	236	104	133	84	172	1,023	691	553	412	81	655	87	115	206	1,523
1978[2]	245	116	141	98	177	1,055	713	585	420	78	691	94	119	215	1,596
1979[4]	237	139	153	96	177	1,085	730	595	419	87	710	96	120	230	1,701
1980															

[1] Farm & factory production. [2] Preliminary. [3] Data prior to 1971 are in MILLIONS OF POUNDS. [4] Forecast.
Source: Foreign Agricultural Service. U.S.D.A.

Supply and Distribution of All Cheese in the United States In Millions of Pounds

Year	Supply					Distribution								
	Production						Dept. of Agriculture				Domestic Disapp.			
	Whole Milk[2]	All Cheese[3]	Jan. 1 Commercial Stocks	Imports[4]	Total Supply	Exports & Shipments[5]	Jan. 1 Stocks	Dec 31 Stocks	Deliveries	Total Disap	Military	Civilian	Civilian Per Capita	Am Cheese Removed by U.S.D.A. Programs
1967	1,276	1,919	373	152	2,443	19	—	81	4	2,014	22	1,969	10.1	181
1968	1,274	1,938	348	171	2,457	26	81	52		2,133	24	2,083	10.6	88
1969	1,266	1,990	353	144	2,487	23	52	1		2,222	17	2,182	10.9	28
1970	1,428	2,201	317	161	2,679	24	1	1		2,345	14	2,317	11.5	49
1971	1,512	2,374	323	136	2,833	29	1	6		2,527	12	2,486	12.2	91
1972	1,644	2,604	301	179	3,085	30	6	—		2,759	10	2,719	13.2	30
1973	1,673	2,685	331	230	3,246	30	—	—		2,888	9	2,849	13.7	3
1974	1,859	2,937	358	316	3,611	36	—	1		3,117	10	3,071	14.6	60
1975	1,655	2,811	494	179	3,484	33	1	2		3,115	10	3,072	14.5	68
1976	2,049	3,337	369	207	3,897	35	2	2		3,417	7	3,375	15.8	38
1977	2,043	3,358	479	210	4,046	38	2	61		3,560	9	3,513	16.4	148
1978	2,074	3,519	486	242	4,246	44	61	30		3,789	11	3,736	17.2	40
1979[1]	2,187	3,710	457	248	4,386	48	30				11	3,877	17.7	40
1980[1]			510											

[1] Preliminary. [2] Whole milk American cheddar. [3] All types of cheese except cottage, pot and baker's cheese. [4] Imports for consumption. [5] Commercial. *Source: Department of Agriculture*

CHEESE

Cheese Production in the United States In Millions of Pounds

	American												Cottage Cheese		
Year	Whole Milk	Part Skim	Total	Swiss, Including Block	Brick & Munster	Limburger	Neufchatel	Cream Cheese	Italian Varieties	Blue mold	All Other Varieties	Total of All Cheese[2]	Low-Fat	Curd[4]	Creamed[5]
1970	1,423	5.1	1,428	144.0	55.9	2.8	4.8	121.3	393.7	23.3	27.2	2,201	60.1	726.3	978.5
1971	1,512	7.0	1,518	153.8	62.2	2.6	4.5	125.3	453.9	25.2	28.2	2,374	85.2	745.1	1,004
1972	1,644	8.1	1,652	177.8	67.5	2.5	5.0	128.3	512.1	28.5	30.5	2,605	102.4	784.2	1,013
1973	1,673	5.1	1,678	164.2	68.8	2.6	4.2	135.5	565.3	29.8	37.4	2,685	128.0	763.0	958
1974	1,859	3.7	1,862	175.3	72.2	2.4	3.6	146.7	606.1	28.3	40.5	2,937	121.9	689.7	856
1975	1,655	5.4	1,660	173.8	71.7	1.9	5.0	155.3	671.9	28.5	43.5	2,811	129.3	701.0	862
1976	2,049	5.0	2,054	196.3	74.5	1.9	3.6	164.4	747.4	33.9	44.4	3,320	135.4	711.1	875
1977	2,043	4.1	2,046	189.3	71.3	1.7	3.3	173.1	793.5	34.8	44.4	3,358	139.0	684.5	878
1978[1]	2,074	4.9	2,074	209.4	76.2	1.6	—198.3—		875.3	35.3	44.2	3.519	151.4	688.4	872
1979[3]	2,187											3,710			848

[1] Preliminary. [2] Excludes full-skim cheddar and cottage cheese. [3] Estimated. [4] Includes cottage, pot, and baker's cheese with a butterfat content of less than 4%. [5] Includes cheese with a butterfat content of 4 to 19%.
Source: Agricultural Marketing Service, U.S.D.A.

United States Total Cheese Production[1] In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1971	178.5	168.3	202.5	210.4	230.1	236.3	211.7	196.9	179.1	183.9	179.6	197.1	2,374
1972	197.0	194.2	227.9	228.1	251.0	258.5	234.9	219.8	199.8	200.0	186.7	206.8	2,605
1973	204.5	194.3	230.4	241.1	266.3	266.7	236.7	216.2	187.4	202.7	205.4	233.7	2,685
1974	240.7	236.6	277.2	277.8	282.7	278.4	252.4	232.9	214.5	219.2	206.4	218.4	2,937
1975	214.3	204.2	240.7	244.4	271.0	275.0	249.2	226.9	214.8	220.2	208.7	242.0	2,811
1976	246.6	237.8	279.0	294.7	315.5	325.4	296.5	285.0	262.4	255.6	257.0	281.1	3,337
1977[2]	265.6	252.5	299.7	304.6	326.0	315.9	280.1	275.6	251.7	256.8	247.7	281.6	3,358
1978[2]	274.0	260.6	311.8	306.2	328.7	332.9	297.0	284.6	264.9	279.4	279.7	301.4	3,519
1979[2]	288.9	276.0	323.0	317.7	339.7	344.7	319.0	310.9	291.4	304.0	289.9	304.6	3,710
1980[2]	310.5	297.8	341.1										

[1] Excludes cottage and full skim American. [2] Preliminary. *Source: Department of Agriculture*

Wholesale Price of American Cheese, Fresh Single Daisies at Chicago In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1971	65.6	65.3	67.8	67.9	67.8	67.8	67.3	67.0	66.9	66.9	66.9	67.6	67.1
1972	68.4	70.7	72.7	71.9	70.2	70.2	70.7	70.9	70.9	71.8	73.6	74.4	71.4
1973	74.5	74.6	76.5	78.3	79.2	80.2	80.1	84.7	89.8	94.4	97.1	102.0	84.3
1974	104.8	103.9	105.9	104.8	97.9	89.2	88.8	89.8	94.5	96.5	96.2	94.6	97.3
1975	93.6	94.6	95.2	96.8	98.7	100.6	103.0	106.4	111.9	116.4	116.9	119.2	104.4
1976	118.2	108.2	113.8	116.6	114.6	115.3	120.0	125.8	118.3	114.2	114.0	114.0	116.1
1977	114.0	114.0	115.2	119.3	119.3	119.4	119.4	119.4	120.5	120.6	121.1	122.4	118.7
1978	122.9	124.1	124.6	125.9	125.9	125.9	126.0	132.1	134.0	139.4	140.0	141.0	130.1
1979	141.0	135.0	135.6	137.4	137.6	138.9	140.9	145.8	148.8	146.6	144.7	144.4	141.4
1980	146.7	147.2											

Source: Department of Agriculture

Cold Storage Holdings of All Varieties of Cheese in the U.S., on First of Month In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1971	324.5	320.9	309.9	302.1	314.6	337.4	371.3	385.6	378.8	357.6	333.5	316.7
1972	304.3	291.8	285.4	287.3	311.7	340.4	376.3	407.6	409.7	494.0	379.3	353.6
1973	331.4	324.6	321.0	302.4	303.4	330.6	374.2	392.9	395.5	382.3	371.0	356.0
1974	357.8	366.8	395.5	438.9	489.5	533.4	570.7	566.0	552.4	539.1	512.1	502.2
1975	494.0	485.9	458.5	447.5	441.0	454.8	475.1	477.6	449.7	422.2	388.3	378.5
1976	367.8	362.3	362.3	367.9	393.7	436.1	483.7	509.0	518.0	522.6	501.4	482.0
1977	478.4	485.7	471.2	485.8	510.3	557.2	583.7	592.9	592.9	553.9	502.8	479.8
1978	468.6	459.6	442.0	430.0	447.1	462.5	500.2	498.5	489.7	476.6	455.2	431.0
1979[1]	436.4	436.6	446.2	448.6	462.2	495.3	519.9	555.3	548.5	540.6	526.9	519.3
1980[1]	512.8	514.8	510.5	498.1	509.4							

Quantities are given in "net weight." [1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Chromite

Most of the U.S. chromite resources of about 8 million tons are in the Stillwater Complex in Montana and beach sands of Oregon and are not competitive with foreign ore because of their lack of size, low grade, and/or long distance from consuming plants. Renewal of substantial domestic chromite mining for emergency use would require that the present price be doubled or tripled, according to the U.S. Bureau of Mines.

U.S. imports of chromite for consumption in 1979 were less than 1 percent smaller than in 1978. The most important suppliers were the Republic of South Africa, the USSR, and the Philippines. Major import sources in the 1975–78 period were the Republic of South Africa, 38 percent; the Philippines, 17 percent; the USSR, 14 percent; Turkey, 12 percent; and others, 19 percent.

U.S. imports of ferrochromium in 1979 were 25 percent lower than in 1978. The Republic of South Africa was by far the largest supplier of high-carbon ferrochromium in 1979, followed by Yugoslavia. In recent years, the Republic of South Africa has supplied 51 percent of U.S. ferrochromium imports; Southern Rhodesia, 12 percent; Japan, 12 percent; and others, 25 percent. The United States removed economic sanctions against Rhodesia in mid-December 1979, allowing chromium materials to be imported again.

Domestic consumption of chromite in 1979 increased 19 percent over that in 1978, according to the Bureau of Mines. Consumption increased 42 percent in the metallurgical industry and 1 percent in the chemical industry in 1979, while consumption declined 15 percent in the refractory industry. The metallurgical industry accounted for about 61 percent of the domestic use of chromite; the chemical industry, 21 percent; and the refractory industry, 18 percent. Consumption of chromium by end use was as follows: construction, 20 percent; machinery and equipment, 17 percent; transportations, 15 percent; refractories, 10 percent; and other uses, 38 percent. The production of chromium alloys increased 37 percent, compared with that of 1978, and reported consumption of chromium alloys was 5 percent higher than in 1978, largely reflecting strong demand for chromium alloys for stainless steel manufacture.

Interest continued in stockpiles of chromium materials by various world organizations and governments.

Published year-end chromite prices were close to those at the end of 1978. Prices, f.o.b. country of origin, for South African high-iron chromite ranged from $54 to $58 per tonne; high-chromium Turkish chromite prices were increased $5 in June 1979 to $110 per long ton. Prices of chromium alloys fluctuated, but tended to increase during 1979.

World Production of Chromite In Thousands of Short Tons

Year	Albania	Cuba	Finland	Greece	India	Japan	Pakistan	Philippines	Southern Rhodesia	Turkey	South Africa	Iran	U.S.S.R.	Yugoslavia	World Total[1]
1969	473.0	N.A.		27	250	33	25	517	400.0	500.3	1,320	165	1,874	43.5	5,865
1970	516	N.A.		29	299	36	32	624	400.0	572	1,573	220	1,930	44.7	6,672
1971	553	22		16	288	35	27	474	600	665	1,812	194	1,980	38	7,093
1972	615	22		24	325	27	29	385	600	435	1,635	198	2,040	31	6,725
1973	674	22		20	317	26	19	640	600	481	1,818	154	2,100	11	7,381
1974	788	22	182	11	437	29	11	584	650	734	2,069	193	2,150	1	8,224
1975	859	35	365	39	551	26	11	573	650	790	2,288	190	2,290	2	9,136
1976	875	35	456	38	443	24	12	471	670	780	2,656	176	2,300	2	9,454
1977[2]	970	35	655	44	387	20	13	592	660	700	3,656	180	2,400	2	10,804
1978[1]								587	660	750	3,466				10,560
1979[1]								600	660	750	3,500				10,610

[1] Estimate. [2] Preliminary. *Source: Bureau of Mines*

U.S. Salient Statistics of Chromite In Thousands of Short Tons

					Consumption by Primary Consumer Groups (Gross Weight)				Stocks, Dec. 31				
Year	Shipments from Gov't Stockpiles	Exports	Imports (For Consumption)	Re-exports	Total	Metallurgical	Refractory	Chemical	Metallurgical	Refractory	Chemical	Total Stocks	$ Per Metric Tn. South Africa[2]
1969		49	1,106	150	1,411	898	302	211	296	301	143	740	19–21½
1970		41	1,405	73	1,403	912	278	213	387	235	111	733	19–27
1971	268	35	1,299	145	1,093	720	193	180	667	233	119	1,019	25–27
1972	191	20	1,056	57	1,140	727	224	189	601	160	96	857	24–27
1973	285	21	931	34	1,387	920	261	206	339	154	104	597	34
1974	500	18	1,102	99	1,447	904	295	251	340	169	64	573	50
1975	418	139	1,252	45	881	532	183	166	701	154	97	952	35
1976	311	124	1,275	85	1,006	597	202	207	762	136	111	1,009	39
1977[1]	517	187	1,336	61	1,000	578	207	214	900	175	264	1,338	59
1978[3]	—	23	1,013		1,010	534	237	239	756	184	361	1,300	56
1979[3]	—	17	1,004		1,150	758	202	242	416	159	335	911	56

[1] Preliminary. [2] Cr_2O_3, 44% (Transvaal). [3] Estimate. *Source: Bureau of Mines*

Coal

Total production of coal in the U.S. in 1979 was a record 775.8 million short tons, nearly 16 percent more than the 670.2 million mined in 1978 and 78.5 million tons more than the previous record of 697.2 million tons set in 1977, according to preliminary Department of Energy (DOE) data. Output in 1978 had been reduced by a strike by the United Mine Workers that lasted nearly the entire first quarter. Coal production in Eastern coalfields (those east of the Mississippi) increased 18 percent to 563.9 million tons from the strike-reduced 476.5 million mined a year earlier. Output in Western states increased by 15 percent to 211.8 million tons from 183.7 million a year earlier.

Preliminary DOE data indicate coal consumption increased 8.9 percent in 1979 to 680.9 million tons from 625.2 million in 1978. Electric utility coal consumption (including bituminous, lignite and anthracite but not petroleum coke use) increased 9.9 percent to 528.8 million tons from 481.2 million in 1978. Coke plants, the nation's second-largest coal-consuming industry, increased their use by 8 percent to 77.1 million tons, which yielded 52.9 million tons of coke and 3.7 million tons of breeze. Consumption by other industrial sectors of the economy in 1979 rose by 4.5 percent to 65.9 million tons from 63.1 million. But deliveries to residential and commercial users fell by 4.2 percent to 9.1 million tons from 9.5 million.

Stocks

Total stocks of coal held by consumers at the end of December 1979 were estimated at 179.6 million tons, up 23.4 percent from the December 31, 1978, estimate of 145.6 million tons. During 1979, electric utility stockpiles increased to 159.7 million tons from 128.2 million, while holdings at coke plants increased to 10.2 million tons from 8.3 million. Other industrial stockpiles of coal increased by 700,000 tons during the year to an ending total estimated at 9.8 million tons.

December 31, 1979, bituminous coalstocks at coke plants were estimated to equal 48.6 days' supply, compared with 37.8 days' supply on hand a year earlier.

Foreign Trade

Imports of bituminous coal in 1979 fell by 900,000 tons to 2.1 million tons. But exports of bituminous and anthracite increased by 62.2 percent in 1979 to

World Production of Coal (Bituminous, Anthracite & Lignite) In Millions of Short Tons

Year	Australia	Belgium	Canada	Czechoslovakia	France	W. Germany	India	Japan	China	Poland	South Africa	Un. Kingdom	United States	U.S.S.R.	World Total
1967	65.1	18.1	11.4	107.3	55.7	231.2	78.4	52.3	269.8	162.9	54.3	192.8	564.9	656.1	2,997
1968	70.7	16.3	11.0	111.1	49.8	236.3	82.6	51.7	362.0	171.4	56.9	183.8	556.7	655.0	3,086
1969	76.5	14.4	10.7	117.3	48.0	242.2	87.7	49.6	382.0	182.8	58.2	163.1	571.0	669.9	3,189
1970	80.9	12.6	16.7	121.1	44.3	242.2	85.1	43.7	422.0	190.6	60.3	152.4	612.6	679.2	3,296
1971	79.8	12.1	18.4	125.1	39.4	244.1	82.8	37.5	432	198.4	64.7	162.2	560.9	790.0	3,385
1972	91.9	11.6	20.7	125.0	36.1	241.3	85.8	31.6	442	208.2	64.4	131.7	602.5	805.4	3,423
1973	94.1	9.7	22.6	120.2	31.4	238.1	89.5	25.0	472.0	215.9	68.7	143.5	598.6	735.9	3,399
1974	99.7	8.9	23.0	121.3	28.3	243.5	96.1	22.7	497.0	222.5	72.8	120.4	607.6	754.0	3,457
1975[2]	105.0	8.2	27.0	125.4	28.2	237.8	108.1	20.9	522.0	233.1	76.5	141.7	654.6	773.0	3,621
1976[1]	100		28		28.1	246.7	116				82	136.5	685		3,712
1977[1]	108		34		36	228	122				82	143	691		3,778
1978															

[1] Estimate. [2] Preliminary. *Source: Bureau of Mines*

Salient Statistics of the Bituminous Coal Industry in the United States

	Production				Value							Exports to:			
Year	Underground (Million Net Tons)	By Augers (Million Net Tons)	By Stripping (Million Net Tons)	Total Production (Million Net Tons)	Total Million $	Avg. Per Ton $	Number of Mines	Thous. of Men Employed	Avg. Number of Days Worked	Net Tons Per Man	Imports (Thousands of Net Tons)	Grand Total (Thousands of Net Tons)	Canada (Thousands of Net Tons)	Europe (Thousands of Net Tons)	Asia (Thousands of Net Tons)
1967	349	16.4	187	553	2,555	4.62	5,873	131.5	219	19.17	227	49,528	15,308	19,362	12,220
1968	344	15.3	186	545	2,546	4.67	5,327	127.9	220	19.37	224	50,637	16,822	15,403	15,839
1969	347	16.4	197	561	2,796	4.99	5,118	124.5	226	19.90	109	56,234	16,905	15,088	21,368
1970	339	20.0	244	603	3,773	6.26	5,601	140.1	228	18.84	36	70,944	18,846	21,503	27,649
1971	276	17.3	259	552	3,905	7.07	5,149	145.7	210	18.02	111	56,633	17,565	16,403	19,705
1972	304	15.6	276	595	4,562	7.66	4,879	149.3	221	17.74	47	55,997	18,161	16,679	18,039
1973	299	15.7	277	592	5,050	8.53	4,744	148.1	227	17.58	127	52,870	16,231	14,253	19,381
1974	277	15.7	312	603	9,502	15.75	5,247	166.7	206	17.58	2,080	59,926	13,706	15,856	27,603
1975[1]	293	40.7	315	648	12,472	19.23	6,168	189.9	232	14.74	940	65,669	16,735	18,972	25,943
1976[2]	295			679	13,189	19.43	6,161	202.3	232	14.46	1,203	59,406	16,000		
1977[2]	266	—417—		691	13,705	19.82	6,077	221.4	210	14.84	1,647	53,687	17,000		
1978[2]	242			665	14,486	21.78	6,075	223.3	207	14.26	2,953	39,825	15,239	10,449	11,344
1979[2]	301			770	18,095	23.50	6,000	251.7	227	13.50	2,059	64,783	19,158	22,744	17,608
1980															

[1] Preliminary. [2] Estimate. *Sources: Bureau of Mines; Dept. of Commerce*

66 million tons from 40.7 million tons in 1978. Canada took 29.5 percent of the U.S. coal exports in 1979, while Japan received 23.8 percent of the shipments.

The Outlook for Coal

According to an analysis prepared by the Exxon Corporation, total world demand for coal was expected to grow at a 3.8 percent annual rate from 1978 through 1990 and at a 4.8 percent rate from 1990 through 2000. Use of coal for thermal purposes (other than at electric utilities) was expected to reverse its long-term downtrend and increase at a 5 percent annual rate through the 1980s—reflecting both higher oil prices and federal laws requiring conversion of large boilers to coal.

Beginning in the late 1980s, conversion of coal to synthetic gas or liquid petroleum is expected to increase, reaching 13 percent of total world coal consumption by 2000, primarily in the U.S., according to the Exxon study. Exxon projected that the U.S. would continue to be the world's leading coal producer, increasing its share from 44 percent of the world's output in 1978 to nearly 50 percent of a much larger amount by the end of the century. European production, 28 percent of the world's total in 1978 and enough to meet 85 percent of Europe's demand that year, was expected to fill only 60 percent of its needs in 2000.

Reserves

The U.S. has the largest proven coal reserves of any nation on earth (in excess of 400 billion short tons, according to DOE estimates). These reserves, sufficient to meet domestic energy needs for centuries, have become the focal point of increasing attention as concern about U.S. dependence on imported petroleum has grown. A variety of technical problems have prevented switching from petroleum to coal as a source of energy on a large scale. Among the most important issues are: environmental problems relating to both the production and burning of coal, such as reclamation of abandoned strip mines and the installation of scrubbers on utility smoke stacks, and the full-scale development of economical liquification and gasification processes.

United States Production of Coal by Principal States In Millions of Short Tons

Year	Anthracite	Bituminous													
	Pennsylvania	Alabama	Colorado	Illinois	Indiana	Kentucky	Montana	Ohio	Pennsylvania	Virginia	West Virginia	Tennessee	Wyoming	Total Bituminous	Total U.S.
1967	12.3	15.5	5.4	65.1	18.8	100.3		46.0	79.4	36.7	153.7	6.8		552.6	564.9
1968	11.5	16.4	5.6	62.4	18.5	101.2		48.3	76.2	37.0	145.9	8.1		545.2	556.7
1969	10.5	17.5	5.5	64.7	20.1	109.0		51.2	78.6	35.6	141.0	8.1		560.5	571.0
1970	9.7	20.6	6.0	65.1	22.3	125.3		55.4	80.5	35.0	144.1	8.8		602.9	612.6
1971	8.7	17.9	5.3	58.4	21.4	119.4		51.4	72.8	30.6	118.3	9.3		552.2	560.9
1972	7.1	20.8	5.5	65.5	25.9	121.2		51.0	75.9	34.0	123.7	11.3		595.4	602.5
1973	6.8	19.2	6.2	61.6	25.3	127.6		45.8	76.6	34.0	115.4	8.2		591.7	598.5
1974	6.6	19.8	6.9	58.2	23.7	137.2		45.4	80.5	34.3	102.5	7.5		603.4	610.0
1975	6.2	22.6	8.2	59.5	25.1	143.6	22.1	46.8	84.1	35.5	109.3	8.2	23.8	648.4	654.6
1976[2]	6.2	21.5	9.4	58.2	25.4	144.0	26.2	46.6	85.8	40.0	108.8	9.3	30.9	678.7	684.9
1977[2]	5.9	21.5	12.0	53.5	27.8	146.3	27.2	47.9	84.6	37.6	95.4	9.4	46.0	691.3	697.2
1978[1]	6.2	20.6	13.8	48.6	24.2	135.7	26.6	41.2	81.5	31.9	85.3	10.0	58.3	665.1	671.3
1979[1]	5.8	23.8	18.0	59.2	27.3	142.0	32.5	45.6	85.5	41.6	114.6	11.9	71.8	770.0	775.8
1980															

[1] Estimate. [2] Preliminary. *Source: Bureau of Mines*

U.S. Consumption & Stocks of Bituminous Coal & Lignite In Millions of Short Tons

Year	Stocks—Dec. 31						Consumption						
	Electric Power Utilities	Oven Coke Plants	Steel & Rolling Mills	Other Industrials	Retail Dealers	Total	Electric Power Utilities	Coke Plants Beehive	Coke Plants Ovens	Steel & Rolling Mills	Other Industrials	Retail Deliveries[2]	Total
1970							318.9	1.4	94.6	5.4	82.9	12.1	515.6
1971							326.3	1.3	81.5	5.6	68.7	11.4	494.9
1972							348.6	1.1	86.2	4.9	67.1	8.7	516.8
1973							386.9	1.3	92.3	6.4	60.8	8.2	556.0
1974							390.1	1.5	88.4	6.2	57.8	8.8	553.0
1975	109.7	8.7	— 8.5—		.2	127.2	403.2	1.1	82.1	2.7	59.8	7.3	557.5
1976	116.4	9.8	— 7.1—		.2	133.6	447.0	.9	83.4	2.7	57.8	6.9	598.8
1977[1]	130.9	12.7	—11.0—		.2	154.9	475.7	.6	76.7	3.2	57.1	7.0	620.5
1978[1]	126.0	8.2	— 9.0—		.4	143.6	480.2	.5	70.6	——62.2——		7.9	621.3
1979[1]	156.4	10.0	— 9.6—		.3	176.4	527.8	——76.7——		——65.0——		7.1	676.7
1980[1]													

[1] Preliminary. [2] To other consumers. *Source: Bureau of Mines*

COAL

Bituminous Coal Production[1] in the United States In Millions of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	46.7	47.1	52.2	50.7	49.2	49.9	39.8	53.0	54.3	55.9	51.2	53.0	602.9
1971	49.8	47.0	56.9	54.3	50.4	49.3	39.5	56.2	54.4	11.9	26.3	56.0	552.2
1972	49.7	49.1	54.4	49.8	52.9	50.1	41.0	52.2	49.4	51.7	50.3	44.9	595.4
1973	49.4	45.9	50.5	47.0	51.4	46.6	43.8	55.9	48.3	54.4	49.8	48.7	591.7
1974	53.7	50.1	51.3	54.4	57.7	48.1	49.4	51.8	52.7	60.5	33.7	40.2	603.4
1975	55.2	51.8	52.6	53.8	55.9	56.2	46.0	51.8	56.1	60.4	54.0	54.8	648.4
1976	52.6	53.8	60.9	59.1	57.9	59.7	44.3	53.6	60.6	58.9	58.8	58.4	678.7
1977[2]	44.6	50.4	65.0	59.3	62.2	62.8	49.4	57.6	69.2	67.4	68.7	30.9	691.3
1978[2]	23.1	23.5	38.8	59.5	62.2	65.6	53.6	64.4	57.8	69.9	69.2	59.6	665.1
1979[2]	56.5	53.6	65.5	62.8	67.9	69.4	54.5	72.1	63.9	75.9	67.6	60.3	770.0
1980[2]	65.9	63.0											

[1] Includes small amount of lignite. [2] Preliminary. *Source: Bureau of Mines*

Average Wholesale Price of Anthracite Coal (Chestnut—F.O.B. Mine) In Dollars Per Short Ton

Year	Jan.	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec	Average
1969	14.96	15.00	15.00	14.71	14.22	14.22	14.78	14.78	15.27	15.27	15.76	16.25	15.10
1970	16.35	16.35	16.35	16.35	15.76	15.76	15.95	15.95	16.64	16.99	18.17	18.17	16.57
1971	18.37	18.37	18.37	18.37	17.58	16.86	17.35	17.35	17.44	17.35	17.35	17.35	17.67
1972	17.738	17.738	17.738	17.738	17.738	17.738	17.738	18.130	19.110	19.110	19.110	19.110	18.228
1973	19.110	19.110	19.110	19.600	19.600	19.600	19.845	20.458	20.703	20.703	21.070	21.621	20.040
1974	21.621	22.785	22.785	26.031	26.031	26.031	29.951	31.421	34.116	35.464	41.711	41.711	29.972
1975	41.711	41.711	41.711	41.711	46.428	46.428	46.428	46.428	46.428	46.428	46.428	46.428	44.856
1976	46.428	46.428	46.428	46.428	46.428	46.428	46.428	46.428	46.428	46.428	46.428	46.428	46.428
1977	46.550	46.550	46.550	46.550	46.550	46.650	46.650	46.579	46.579	46.579	46.579	46.579	46.579
1978	46.579	46.579	46.579	46.579	—	47.192	47.192	47.498	47.542	47.537	47.530	47.675	47.135
1979	47.677	47.677	47.677	47.677	—	47.677	47.677	47.378	—	47.868	48.725	49.831	47.986
1980													

Source: Bureau of Labor Statistics (0511-0101.02)

Average Wholesale Price of Bituminous[1] Coal (Screenings, Industrial Use) Index—1967 = 100[2]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	5.804	5.804	5.804	5.847	5.897	5.932	6.068	6.068	6.068	6.342	6.470	6.514	6.052
1970	6.526	6.926	7.037	7.758	7.819	8.224	8.280	8.424	8.858	9.747	9.747	9.747	7.641
1971	9.747	9.316	9.316	9.810	9.719	9.719	9.719	9.719	9.719	9.719	9.719	10.131	9.696
1972	10.266	10.266	10.266	10.146	10.146	10.146	10.146	10.146	10.426	10.443	10.933	11.209	10.378
1973[2]	11.209	11.311	11.160	11.541	11.570	11.616	11.551	11.551	12.040	12.129	13.010	245.9[2]	222.5
1974	255.2	258.4	265.2	311.5	315.8	330.7	351.9	366.2	379.1	402.6	402.5	435.4	339.5
1975	435.9	415.4	391.8	390.8	389.6	386.0	382.0	377.3	372.4	370.2	363.0	370.1	387.0
1976	368.9	368.0	366.9	366.4	366.0	365.8	366.7	366.7	366.8	367.0	368.0	373.0	367.5
1977	375.3	376.5	378.0	379.1	386.1	389.7	392.2	393.7	394.4	397.0	399.4	401.6	388.6
1978	403.2	404.6	406.5	426.4	432.4	434.5	437.2	441.9	442.9	444.1	442.9	442.8	430.0
1979	443.8	444.2	445.5	447.4	451.2	452.4	452.9	454.6	452.8	454.9	455.6	457.9	451.1
1980	457.9	458.5	460.6										

[1] Prices are for Screenings, industrial use, f.o.b. mine. [2] Prior to Dec. 1973 data are in DOLLARS PER SHORT TON.
Source: Bureau of Labor Statistics (0512-0208.02)

U.S. Stocks of Bituminous Coal for All Industrial & Retail Dealers, at End of Month In Million Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1971	88.3	85.8	89.5	97.1	102.9	107.1	102.8	111.4	117.0	100.4	85.6	90.0
1972	92.9	93.6	97.9	103.7	110.6	114.5	109.7	112.9	114.3	118.0	119.2	116.5
1973	111.1	108.9	111.5	112.6	116.9	110.0	107.5	106.9	106.2	107.5	107.1	102.2
1974	97.8	95.8	101.6	107.2	112.9	111.9	106.2	105.5	109.2	118.7	109.2	95.5
1975	95.5	97.2	97.9	102.8	109.7	114.9	109.1	108.5	111.9	120.3	125.8	127.1
1976	119.1	119.0	123.4	128.3	134.6	140.2	129.6	123.7	129.9	133.6	134.1	133.7
1977[1]	118.1	114.4	122.6	129.9	137.7	145.9	137.5	136.8	145.0	158.2	173.1	152.3
1978[1]	118.1	93.1	83.9	96.5	110.9	121.6	119.8	122.6	125.6	143.6	142.6	141.6
1979[1]	131.9	125.1	130.0	137.7	147.0	150.6	144.1	148.1	153.7	167.2	176.1	176.4
1980												

[1] Preliminary. *Source: Bureau of Mines*

Statistical Trends in the Pennsylvania Anthracite Industry

Year	Production (Millions of Net Tons)			Value of Production Million $	Avg. Value Per Net Ton	Stocks (Dec. 31)		Exports to:					Apparent Consumption	Avg No of Men Working Daily (1,000)	Avg Number of Days Worked	Avg Tons Per Man Per Day
	Total	By Stripping	Loaded Mech. Under			Electric Utilities	Retail Dealers'	Total	Canada	France	Netherlands	Italy				
						(1,000 Net Tons)										
1969	10.5	4.6	1.3	100.8	9.62	1,297	142	627	473	1	23	40	8,809	5.9	232	7.45
1970	9.7	4.5	1.2	105.3	10.83	1,099	202	789	438	229	1	61	8,248	5.9	234	7.10
1971	8.7	4.5	.7	103.5	11.86	1,123	182	671	466	101	1	—	7,338	5.8	239	6.30
1972	7.1	3.5	.6	85.3	12.00	895	123	743	500	155	—	32	5,915	4.8	216	6.88
1973	6.8	3.3	.4	90.3	13.65	1,066	106	717	478	106	39	28	5,671	4.1	234	7.15
1974	6.6	2.9	.3	144.7	22.19	930	91	735	481	166	11	18	5,448	3.8	219	7.87
1975	6.2	2.6	.3	198.5	32.26	982	59	640	544	39	16	11	5,108	3.9	214	7.45
1976	6.2	3.0	.3	209.2	33.92	1,000	33	615	445	105	16	—	5,040	3.7	235	7.19
1977[1]	5.9	3.1	.4	202.4	34.86	2,231	38	625	526	20	—	33	4,803	3.7	229	6.97
1978[1]	6.2							869								
1979[1]	5.8							1,233								

[1] Preliminary. *Source: Bureau of Mines*

Average Sales Realization of Anthracite Coal[4] at Preparation Plants In Dollars Per Net Ton

Year	Chestnut	Stove	Lump[2] & Broken	Pea	Egg	Pea & Larger	Buckwheat						Total Steam	Total All Sizes
							No. 1	No. 2[3]	No. 3[1]	No. 4	No. 5	Other		
1970	15.67	15.41	—	13.87	14.93	15.06	13.26	13.14	11.06	7.40	5.65	4.00	8.92	11.03
1971	16.79	16.65	16.00	15.28	17.76	16.39	14.83	14.56	12.56	8.07	6.08	4.44	9.90	12.08
1972	17.66	17.73	—	15.72	18.11	17.18	15.38	15.12	12.97	9.11	5.93	5.16	10.14	12.40
1973	19.30	19.51	—	16.98	19.55	18.76	16.60	16.77	14.11	10.78	8.39	5.78	11.30	13.65
1974	31.06	31.54	—	27.61	32.91	30.41	28.36	26.73	23.16	19.35	18.82	8.77	18.88	22.19
1975	45.34	46.59	—	42.33	45.82	45.04	43.50	39.86	37.43	33.80	25.74	12.29	27.61	32.26
1976	47.13	49.21		42.02	49.08	46.71	43.03	41.20	39.53	35.68	28.30	14.24	29.11	33.92
1977	44.92	47.00	—	39.32	51.36	44.74	42.01	38.86	39.50	37.31	25.51	21.84	31.15	34.86

[1] Barley. [2] Quantity of Lump included is insignificant. [3] Rice. [4] Exclusive of dredge coal. *Source: Bureau of Mines*

Pennsylvania Anthracite Coal Production[1] In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	808	770	814	759	763	809	707	898	880	895	815	811	9,729
1971	725	654	780	795	782	740	620	813	767	710	685	656	8,727
1972	583	542	622	487	706	515	465	688	611	682	650	555	7,106
1973	522	568	641	581	641	609	434	587	532	614	582	519	6,830
1974	516	458	531	563	589	505	443	620	516	641	610	625	6,617
1975	540	535	544	270	535	544	455	535	500	560	555	630	6,203
1976	525	440	525	520	555	630	490	590	515	555	490	475	6,228
1977	390	420	484	553	476	479	474	479	471	587	513	535	5,861
1978[2]	350	430	610	520	540	595	570	680	575	535	575	440	6,160
1979[2]	455	360	460	475	530	465	415	540	485	600	545	425	5,750
1980[2]	470												

[1] Represents production in Pennsylvania only. Production outside which is small, is included in Bituminous Production series.
[2] Preliminary. *Source: Bureau of Mines*

Cobalt

U.S. mine production of cobalt ceased at the end of 1971. Most secondary cobalt is derived from recycled superalloy or cemented carbide scrap. About 1,000 tons of cobalt was recycled from purchased scrap in 1979, nearly 40 percent more than in 1978 and about 10 percent of estimated consumption.

U.S. imports of cobalt in 1979 totaled about 10,000 tons, about 5 percent more than in 1978. The largest suppliers of cobalt to the U.S. in 1979 were Zaire, 44 percent; Belgium, 11 percent (Zairian origin); Zambia, 18 percent; Finland, 6 percent; Norway, 5 percent; Canada, 4 percent; Japan, 3 percent; and France, 3 percent. The basic U.S. problem regarding cobalt is excessive dependence (90 percent or more) on foreign sources of supply, combined with concentration of the higher-grade deposits in only a few areas of the world. Cobalt is usually mined as a byproduct of either nickel or copper, and an important problem which may develop is insufficient mine capacity for cobalt production resulting from lack of expansion of nickel and copper operations. However, Noranda Mines Ltd. of Canada reportedly may begin mining cobalt in 1980 in the Blackbird district of Idaho. If the pilot operation is successful and Noranda proceeds with production plans of 2,000 tons per year of cobalt in ore, U.S. import dependence could be reduced as much as 20 percent.

The domestic cobalt market stabilized significantly in 1979 after a year of market disruption and severe price increases. The 70 percent allocation implemented by the major U.S. dealer on May 1, 1978, was maintained throughout 1979. Demand leveled off in the face of continuing relatively high prices and substitution, especially in magnetic materials, hardfacing and superalloys. Superalloys, mainly for industrial and aircraft gas turbine engines, accounted for about 30 percent of reported consumption in 1979; magnetic materials for various electrical applications, about 20 percent; metal cutting and mining tool bits, about 15 percent; catalysts, 15 percent; driers, 15 percent; other uses, 5 percent.

The producer price of cobalt was raised to $25 per pound on February 1, 1979, from its previous price of $20 per pound, and it remained there until the end of 1979. Spot prices for cobalt dropped from a high of about $45 per pound at the start of 1979 to a range of $25 to $30 per pound at mid-year.

World Mine Production of Cobalt In Short Tons of Contained Cobalt

Year	Australia	Zaire (Congo Repub.)	U.S.S.R. (Metal)	France (Metal)	Canada	Cuba	Philippines	Finland	W. Germany (Metal)	Norway (Metal)	Morocco	Zambia	New Caledonia	World Total
1967	164[3]	10,712	1,500	N.A.	1,802	1,150	N.A.	1,984	973	N.A.	2,125	1,604	N.A.	22,014
1968	263	11,462	1,600	882	2,015	1,400	N.A.	1,100	893	709	1,662	1,482	N.A.	20,984
1969	269	11,680	1,650	900	1,628	1,700	N.A.	1,300	937	810	1,554	1,997	N.A.	21,778
1970	517	15,386	1,700	335	2,281	1,700	N.A.	1,400	911	862	666	2,645	N.A.	26,295
1971	877	16,003	1,750	635	2,161	1,700	N.A.	1,400	662	958	1,078	2,330	N.A.	27,299
1972	849	14,453	1,800	853	1,676	1,700	N.A.	1,400	504	353	1,766	3,687	N.A.	27,376
1973	848	16,625	1,850	922	1,672	1,800	45	1,400	408	1,005	1,567	3,460	1,900	29,268
1974	1,188	19,436	1,900	848	1,724	1,800	33	1,400	392	1,365	1,793	2,622	2,113	34,045
1975	2,986	15,400	2,000	848	1,492	1,800	129	1,545	375	852	2,162	2,627	3,770	34,000
1976	3,741	12,100	2,000	874	1,494	1,800	567	1,410	385	635	950	2,400	4,570	31,197
1977[2]	3,759	11,600	2,100	940	1,662	1,800	1,195	1,462	385	777	1,721	2,500	4,630	32,611
1978[1]	3,800	12,000			2,000		1,200	1,500			2,000	2,500	4,600	34,000
1979[1]	3,800	14,500			1,000		1,200	1,500			2,000	3,000	[illegible]	35,800

[1] Estimate. [2] Preliminary. [3] Content of zinc concentrate. *Source: Bureau of Mines*

U.S. Salient Statistics of Cobalt In Thousands of Pounds of Contained Cobalt

				Consumption By End Uses												
Year	Cobalt Pdt's Production	Consumer Stocks Dec. 31	Imports for Consumption	Steel Full Alloy	Stainless & Heat Resisting	Chemical & Ceramics	Super-Alloys	Tool Steel	Magnetic Alloys	Nonferrous Alloys	Salts & Driers	Cutting & Wear-Resistant Mater.	Welding & Hard Facing Rods	Total	Price $ Per Pound[3]
1967	2,055	2,471	8,215	516	N.A.	626	N.A.	514	2,486	3,625	1,592	916	864	13,976	1.85
1968	2,204	2,139	9,068	470	N.A.	721	N.A.	553	2,700	3,061	1,826	707	495	12,998	1.85
1969	3,135	2,191	12,911	282	73	689	3,675	570	2,560	660	2,577	1,747	302	15,608	1.85–2.2
1970	2,999	1,890	12,417	136	114	402	2,322	534	2,374	549	2,616	1,395	181	13,367	2.20
1971	3,220	1,411	10,912	196	50	919	1,983	318	2,278	532	2,744	1,230	246	12,500	2.2–2.45
1972	3,142	1,193	13,915	217	39	1,245	3,012	361	3,441	651	2,691	1,273	199	14,130	2.45
1973	4,119	2,451	19,238	226	32	1,793	3,282	518	4,302	789	3,569	2,511	391	18,741	2.45–3.3
1974	4,636	2,047	16,122	249	39	1,905	4,090	690	3,457	780	3,635	2,578	423	18,861	3.1–3.75
1975	2,960	1,801	6,608	207	32	421	1,494	233	2,024	669	1,964	1,276	298	12,787	3.75–4
1976	4,608	3,180	16,487	251	37	375	1,772	151	3,521	742	3,089	1,385	454	16,482	4–5.40
1977[1]	4,563	3,738	17,548	354	72	438	3,097	231	3,466	624	2,883	1,256	376	16,577	5.20–6.40
1978[2]	5,699	3,632	19,030	250	132	636	4,251	308	3,752	543	4,073	1,654	668	12,741	6.40–20
1979[2]		2,733	19,978	224	129	2,628	5,370	357	3,251	330	1,695	1,839	423	16,706	20–25

[1] Preliminary. [2] Estimate. [3] 97 to 99% cobalt, per contract. *Source: Bureau of Mines*

Cocoa

The calendar year 1980 world cocoa bean grind was forecast to increase 2 percent from the 1979 level of 1.42 million tonnes to 1.45 million. Nevertheless, world cocoa stocks were expected to increase by 137,000 tonnes during the year, following a gain of 60,000 tonnes in 1979. High world cocoa prices in recent years have encouraged the use of cocoa substitutes and extenders.

Manufacturers, anticipating lower prices in 1980, were content to let the producers carry the projected world surplus early in 1980. But prices of cocoa-containing products were not expected to decline, as manufacturers were working off inventories of higher-priced cocoa, and costs for other ingredients such as sugar and nuts were rising sharply.

U.S. imports of cocoa beans declined by more than 19 percent in 1979, but imports of chocolate liquor, sweetened chocolate and cocoa butter were higher. This reflects the long-term trend toward increased processing in the producer nations.

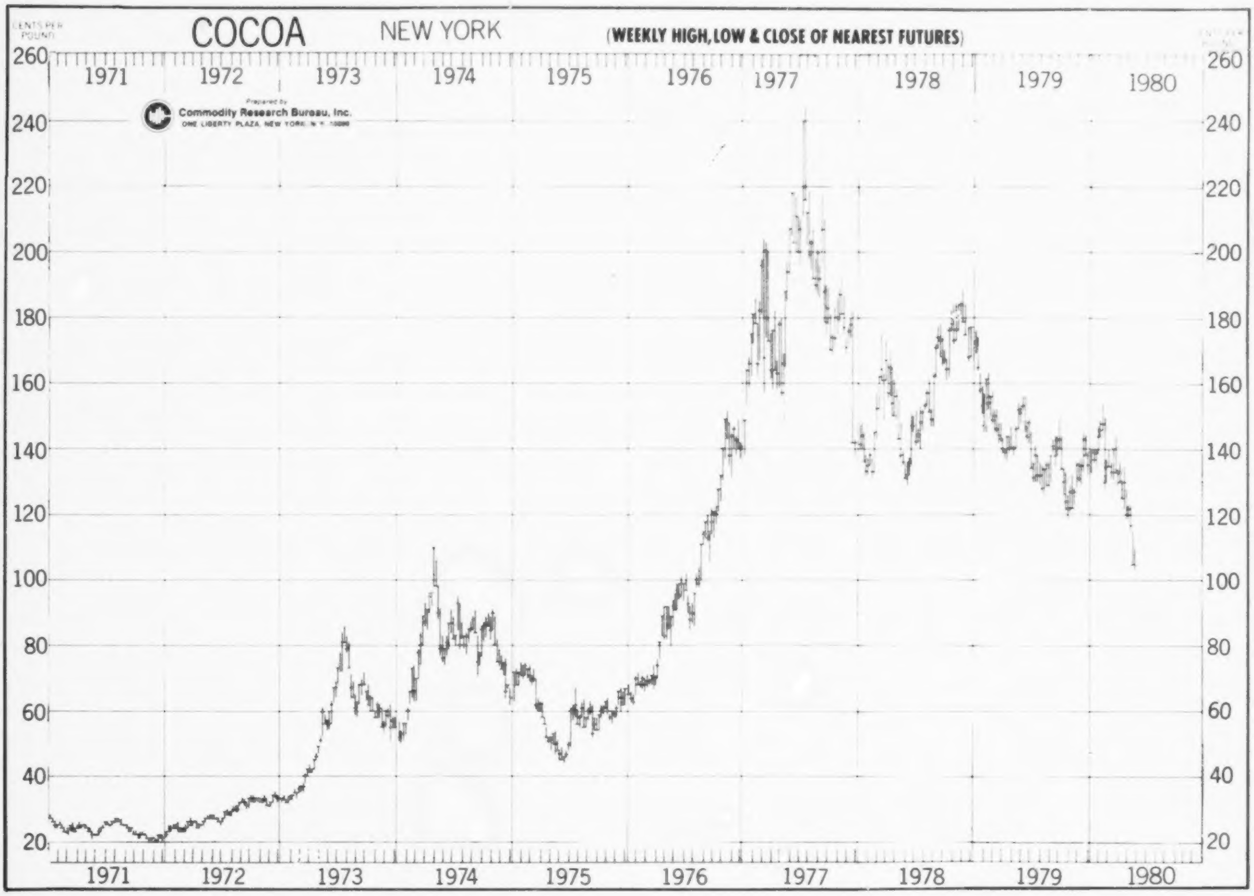
The International Cocoa Agreement was extended to March 31, 1980, to allow negotiations to continue. However, producers and consumers were unable to resolve differences over the agreement's floor and ceiling prices.

World cocoa production for the 1979/80 crop year ending September 30, 1980, was estimated at 1,603,000 tonnes by the USDA. This 7.2 percent increase from the 1978/79 estimate resulted from more favorable growing conditions in Ghana, Nigeria, and Cameroon. Also, new plantings came into bearing in Brazil, the Ivory Coast and Malaysia.

Production in Ghana was expected to be about 300,000 tonnes, well above the poor 1978/79 crop. The Ivory Coast's crop was expected to reach record levels between 320,000 and 330,000 tonnes. But the government's plan to stockpile cocoa to boost prices raised questions of quality, since under normal conditions the beans can be stored in tropical climates for no more than six months before deterioration occurs. Brazil's expansion program, geared to making it the world's largest producer, was continuing, and production in 1979/80 was expected to top the record 1978/79 harvest of 314,000 tonnes.

Futures Markets

On October 22, 1979, the N.Y. Cocoa Exchange merged with the N.Y. Coffee and Sugar Exchange to form the N.Y. Coffee, Sugar and Cocoa Exchange. Beginning with the December 1980 delivery, the New York contract calls for delivery of 10 tonnes of cocoa and is quoted in dollars per tonne. Cocoa futures also are traded on the London Terminal Market and on smaller exchanges in Amsterdam, Paris and Hamburg.



Highest and Lowest Prices of March Cocoa Futures in New York In Cents Per Pound

Year of Delivery		Year Prior to Delivery										Delivery Year			
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Range
1969	High	28.15	28.05	27.84	27.48	28.26	30.78	37.62	40.85	44.40	47.40	44.08	40.36	40.60	47.40
	Low	27.42	27.41	27.05	26.69	26.73	27.86	30.95	34.35	40.08	41.25	36.80	36.83	36.65	26.69
1970	High	38.26	36.80	36.45	37.95	42.00	41.54	40.74	42.80	43.70	40.45	36.00	33.02	31.97	43.70
	Low	34.85	34.85	34.35	35.70	37.20	37.30	37.80	38.78	40.11	35.25	32.50	28.90	28.68	28.68
1971	High	31.63	31.04	29.60	27.74	31.27	35.60	36.80	33.15	31.64	29.35	28.10	25.60	25.95	36.80
	Low	29.90	29.41	26.58	26.48	26.73	29.55	29.35	29.66	27.75	27.51	24.12	22.55	22.42	22.42
1972	High	26.40	26.18	24.65	25.82	26.70	27.50	26.34	22.85	22.50	22.32	25.28	25.50	26.19	27.50
	Low	24.25	24.50	23.08	23.05	24.91	25.62	22.26	21.39	20.54	20.25	20.55	22.81	23.15	20.25
1973	High	28.44	28.10	29.39	29.65	30.64	32.86	33.61	33.80	33.21	34.70	33.89	36.00	40.50	40.50
	Low	25.81	26.41	27.00	26.99	27.74	28.85	30.59	31.35	30.80	31.56	31.50	32.85	34.93	25.81
1974	High	38.52	42.60	54.00	57.70	71.40	67.40	63.95	62.20	55.10	58.00	58.10	73.60	84.00	84.00
	Low	35.35	35.75	41.50	46.14	57.20	53.40	51.10	51.90	47.60	48.69	50.20	54.20	62.60	35.35
1975	High	56.80	70.10	75.00	64.60	70.45	74.30	75.05	81.90	84.00	69.30	75.15	75.00	72.60	84.00
	Low	46.75	55.00	57.75	56.56	60.51	63.90	65.15	71.70	66.80	62.20	61.70	69.06	68.30	46.75
1976	High	59.00	56.65	48.55	45.80	57.00	54.05	53.75	58.90	59.75	66.00	71.35	71.70	74.10	74.10
	Low	54.25	47.85	45.60	40.85	42.56	47.15	48.50	50.95	53.01	54.50	62.20	66.30	67.25	40.85
1977	High	58.75	73.55	74.30	82.25	87.50	104.1	116.5	126.8	146.0	147.8	178.3	187.0	204.1	204.1
	Low	55.65	58.01	65.15	71.25	79.80	81.20	101.2	108.0	124.9	125.8	138.3	162.0	157.0	55.65
1978	High	175.0	157.9	167.8	182.3	195.3	185.5	175.0	168.0	166.0	155.3	147.8	149.6	175.0	195.3
	Low	137.3	133.8	135.3	153.3	164.3	154.0	157.2	147.7	145.0	138.2	132.1	130.0	142.5	130.0
1979	High	152.0	148.2	140.3	137.0	145.1	157.2	173.0	184.0	189.3	183.9	175.5	163.0	153.3	189.3
	Low	121.7	132.5	122.6	120.4	129.5	141.6	156.7	161.3	171.2	167.1	149.3	145.0	141.8	120.4
1980	High	162.0	153.9	159.5	163.4	159.6	145.1	146.8	149.9	142.1	145.4	146.9	154.3	140.0	163.4
	Low	153.5	147.7	149.1	153.2	140.2	135.3	136.9	122.0	124.0	134.0	131.5	127.9	130.8	122.0
1981[1]	High	324.5	301.5	283.0											
	Low	294.0	272.0	242.2											

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[1] Prices beginning with March '81 contract are in $ per metric ton. *Source: N.Y. Cocoa Exchange*

Raw Cocoa Grindings in Selected Countries In Thousands of Metric[2] Tons

Year	Total	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
	France					Germany (West)					Holland				
1968	48.9	13.6	11.8	10.7	12.8	136.7	35.7	30.5	31.5	39.0	109.8	28.1	25.9	26.2	29.6
1969	42.4	11.9	11.4	8.2	10.9	120.3	34.5	25.8	26.3	33.7	108.9	28.7	25.5	25.8	28.9
1970	38.9	10.1	9.6	8.3	10.9	123.8	31.8	29.2	28.6	34.2	113.0	27.9	26.7	29.0	29.4
1971	41.0	10.8	12.1	8.7	11.2	130.8	33.2	30.1	30.3	37.2	118.6	30.6	27.6	27.3	33.1
1972[2]	48.0	11.0	12.2	10.1	14.7	138.8	34.4	32.6	31.6	40.2	124.4	31.9	31.1	28.5	33.1
1973	47.3	14.5	12.9	8.7	11.1	152.4	41.0	39.5	33.8	38.0	122.6	33.2	31.1	26.3	32.0
1974	36.9	11.1	9.5	7.4	9.0	138.2	37.1	31.8	30.8	38.5	114.9	33.4	28.0	23.0	30.4
1975	34.3	9.7	9.1	6.9	8.6	139.0	40.1	34.0	30.0	34.8	119.4	33.3	27.4	26.5	32.2
1976	35.7	10.1	9.5	7.2	8.8	140.6	36.2	35.2	30.6	38.6	127.3	34.6	31.8	25.9	35.1
1977	36.3	10.7	10.5	7.5	7.7	142.3	38.3	32.3	30.5	41.2	126.1	34.9	32.0	26.6	32.6
1978	40.0	10.8	10.9	7.3	10.9	143.6	39.8	34.7	30.3	38.8	125.9	34.0	31.5	26.7	33.8
1979[1]	43.3	11.5	11.5	8.8	11.5	142.3	37.6	34.8	30.3	39.5	127.4	35.4	29.3	29.8	33.0
1980[1]												35.1			
	Italy					United Kingdom					United States				
1968	40.0	10.2	10.2	9.1	10.4	91.5	25.0	23.6	19.6	23.3	286.1	74.4	71.4	67.5	72.8
1969	41.8	11.6	11.4	7.2	11.7	90.9	23.8	25.1	20.1	21.9	264.8	68.3	65.2	63.2	68.1
1970	41.7	11.5	10.4	9.6	10.3	81.1	21.0	21.0	17.7	21.4	261.3	64.2	69.0	60.9	67.2
1971	39.0	9.1	9.1	10.1	10.8	83.1	20.2	19.9	18.3	24.7	274.7	64.7	66.8	65.8	77.4
1972[2]	40.6	9.8	8.7	9.8	12.3	97.7	22.0	24.2	24.2	27.3	289.0	79.3	66.1	63.2	80.4
1973	42.9	10.8	10.9	11.4	9.8	107.0	29.1	28.2	23.9	25.8	278.5	77.9	73.4	60.7	66.5
1974	36.3	12.8	8.2	5.1	10.2	93.1	27.7	25.9	21.4	18.0	229.6	67.6	58.8	54.5	48.7
1975	29.1	8.4	6.4	5.9	8.5	72.5	20.2	18.1	15.4	18.8	207.8	43.7	51.7	53.2	59.3
1976	35.4	8.6	9.0	7.8	9.9	83.0	22.3	21.6	17.9	21.2	225.3	60.9	55.0	55.0	54.5
1977	26.4	5.9	6.9	5.3	8.3	75.3	22.0	20.5	16.4	16.4	183.7	56.5	46.9	40.9	39.4
1978	30.1	7.0	8.5	6.3	8.2	72.4	21.0	19.0	15.9	16.5	162.7	42.0	38.4	36.9	45.3
1979[1]		6.3	10.0	6.9		60.6	17.7	15.9	12.3	14.7	160.3	40.5	41.4	41.4	37.0
1980[1]												33.5			

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[1] Preliminary. [2] Data prior to 1972 are in THOUSANDS OF LONG TONS. *Source: Gill and Duffus, Ltd.*

World Production of Cocoa Beans in Principal Producing Countries In Thousands of Metric Tonnes

Crop Year[1]	Brazil	Co-lombia	Domin-ican Rep.	Ecua-dor	Equator-ial Guinea[4]	Cam-eroon	Ghana	Ivory Coast	Nigeria	Sao Tome & Principe	Trinidad & To-bago	Vene-zuela	Asia & Oceania	World Total
1967–8	144.7	18.0	30.0	70.0	34.0	91.5	421.6	146.8	238.6	11.0	6.3	24.7	34.8	1,352
1968–9	165	19	21.0	53.0	38	103.8	338.9	145	192	9	4.7	18	41	1,242
1969–0	201	19	43.0	55.0	24	108.3	416	181	223	9.7	5	19	35.8	1,435
1970–1	182	21	25	61	30.0	111.7	392.0	180	308	10.4	4.1	18.9	44	1,499
1971–2	167	22	41	67	22	123	464	226	255	10.0	5	17	45	1,583
1972–3	162	23	28	43	10	107	418	181	241	11	5	19	40	1,398
1973–4	246	23	30	72	12	110	350	209	215	10	4	17	53	1,448
1974–5	273	25	27	78	13	118	377	242	214	7	5	19	57	1,549
1975–6	258	26	30	63	10	96	397	231	216	8	3	15	60	1,509
1976–7	234	29	30	72	6	82	320	230	165	6	4	15	60	1,340
1977–8	283	29	30	75	7	[illegible]	268	304	205	6	4	18	63	1,502
1978–9[3]	314	31	33	90	8	[illegible]	250	310	138	5	3	17	66	1,475
1979–0[2]	297	33	27	95	8	115	300	320	175	5	3	17	71	1,577
1980–1														

[1] Crop years are for the 12 months October 1 to September 30. [2] Forecast. [3] Preliminary. [4] Includes Fernando Po & Rio Muni.
Source: Gill & Duffus, Ltd.

World Absorption (Consumption) of Cocoa[2] In Thousands of Metric[1] Tonnes

Year	Japan	Aus-tralia	Bel-gium	Brazil	Canada	Colom-bia	France	W. Ger-many	Neth-erlands	Spain	Italy	Switz-erland	USSR	United King.	United States	World Total
1967	31	13	18	63	18	32	51	142	110	32	44	15	83	94	289	1,366
1968[4]	32	14	18	59	18	34	50	139	112	34	41	16	97	93	291	1,410
1969	33	13	17	52	18	34	43	122	111	38	42	15	99	92	269	1,353
1970	35	13	19	61	16	35	40	126	115	28	42	17	102	82	266	1,355
1971	36	13	20	69	16	36	42	133	121	30	40	17	110	84	279	1,438
1972	36	16	20	90	19	36	48	139	124	31	41	18	132	98	289	1,565
1973	38	16	21	87	18	32	47	152	123	34	43	18	134	107	278	1,556
1974	30	16	22	104	16	31	37	138	115	36	36	17	143	93	230	1,478
1975	29	14	19	98	11	32	34	139	119	34	29	15	150	73	208	1,462
1976	32	16	19	116	13	31	36	141	127	38	35	16	140	83	225	1,525
1977	26	15	16	120	11	24	36	142	126	28	26	16	85	75	184	1,361
1978[1]	21	12	15	136	11	24	40	144	126	28	30	14	90	72	163	1,389
1979[3]	22	11	17	180	10	25	43	142	127	28	30	12	120	61	160	1,422
1980																

[1] Preliminary. [2] Figures represent the "absorption," "disappearance" or "grindings" of cocoa beans in each country—in other words, net imports of cocoa beans adjusted for changes in stock. [3] Estimate. [4] Data prior to 1968 are in THOUSANDS OF LONG TONS. *Source: Gill & Duffus, Ltd.*

Cocoa Outturns and Sales of the Bahia Crops In Thousands of Bags of 60 Kilos

	Outturns			Cumulative Sales of Cocoa Beans (Crop Year Ending April)												
Year	Main Crop (Oct.-Apr.)	Temporao Crop (May-Sept.)	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	1,365	896	2,261	2,540	2,686	2,620	2,620	615	874	1,102	1,547	1,765	1,926	2,103	2,331	
1968	871	1,749	2,620	2,580	2,671	2,753	2,774	546	695	978	1,209	1,368	1,546	1,567	1,578	
1969	1,529	1,682	3,211	1,640	1,737	1,783	1,783	657	961	1,457	1,576	1,808	2,458	2,582	2,789	
1970	945	1,944	2,889	2,984	3,057	3,180	3,262	580	875	1,331	1,581	1,800	2,040	2,323	2,508	
1971	1,511	1,095	2,606	2,668	2,700	2,700	2,700	740	1,097	1,482	1,875	2,211	2,381	2,609	2,957	
1972	1,791	705	2,496	3,358	3,457	3,516	3,525	536	718	1,096	1,383	1,672	1,955	2,144	2,443	
1973	2,376	1,515	3,891	2,547	2,638	2,667	2,680	988	1,272	1,637	1,808	1,864	2,015	2,136	2,356	
1974	1,613	2,630	4,243	2,596	2,914	3,087	3,173	1,361	1,405	1,584	1,751	2,019	2,314	2,525	2,650	
1975	1,899	2,091	3,990	2,762	2,870	2,963	3,078	1,314	1,666	2,342	2,699	3,098	3,790	3,928	4,091	
1976	1,497	2,102	3,599	4,308	4,407	4,443	4,530	1,906	2,480	2,646	2,868	3,083	3,197	3,349	3,460	
1977	1,887	2,524	4,411	3,534	3,526	3,498	3,477	1,629	1,894	2,276	2,455	2,717	2,933	3,154	3,275	
1978	1,805	3,129	4,934	3,449	3,652	3,767	3,941	1,113	1,360	1,701	2,175	2,660	3,166	3,546	3,872	
1979[1]	2,100	2,100	4,200	4.155	4,212	4,273	4,304	1,959	2,436	2,966	3,378	3,805	4,091	4,533	4,739	
1980[2]				5,008	5,145	5,206										

[1] Preliminary. [2] Estimated. *Source: Gill and Duffus, Ltd.*

COCOA

World Cocoa Supply and Demand In Thousands of Metric Tons

Crop Year[1]	Stocks Oct. 1	Net World Crop[2]	Total Availability	Seasonal Grindings	Closing Stocks	Stock Change	Crop Year[1]	Stocks Oct. 1	Net World Crop[2]	Total Availability	Seasonal Grindings	Closing Stocks	Stock Change
1969–0	433	1,421	1,854	1,354	500	+ 67	1975–6	434	1,494	1,928	1,516	412	− 22
1970–1	500	1,484	1,984	1,415	569	+ 69	1976–7	412	1,327	1,739	1,418	321	− 91
1971–2	569	1,567	2,136	1,515	621	+ 52	1977–8	321	1,487	1,808	1,368	440	+119
1972–3	621	1,384	2,005	1,605	400	−221	1978–9[3]	440	1,460	1,900	1,406	494	+ 54
1973–4	400	1,434	1,834	1,505	329	− 71	1979–0[4]	494	1,561	2,055	1,444	611	+117
1974–5	329	1,534	1,863	1,429	434	+105	1980–1						

[1] Crop year season is OCT.–SEPT. [2] The Net World Crop is obtained by adjusting the Gross World Crop for one per cent loss in weight. [3] Preliminary. [4] Forecast. *Source: Gill and Duffus, Ltd.*

World Exports of Cocoa Beans by Principal Producing Countries In Thousands of Metric Tons

Year	Brazil	Costa Rica	Dominican Repub.	Ecuador	Equatorial Guinea	Cameroon	Ghana	Malaysia	Ivory Coast	Papua New Guinea	Nigeria	Sao Tome & Principe	Trinidad & Tobago	Venezuela	Togo	Grand Total
1973	82.8	4.7	23.0	30.0	6.4	84.2	373.8	6.5	143.0	22.6	213.9	11.8	3.4	9.9	17.7	1,089
1974	129.9	4.4	26.4	68.9	9.0	88.9	313.9	9.7	205.3	34.0	197.1	9.8	3.8	11.5	15.9	1,170
1975	176.6	5.1	22.3	37.8	3.0	72.5	322.2	11.8	167.5	30.5	194.7	5.2	4.8	14.4	16.2	1,125
1976	128.8	4.2	24.5	22.2	7.0	68.6	327.6	14.8	191.4	31.3	223.0	5.6	3.0	7.6	11.8	1,115
1977	107.6	5.1	25.6	20.1	5.0	56.8	249.1	13.6	158.5	29.4	156.4	6.1	1.4	7.4	19.6	906
1978[1]	134.1	5.8	27.6	16.2	5.0	61.6	207.0	17.6	245.0	28.0	190.0	6.1	3.2	6.4	17.2	1,015

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

Cumulative Ghana Main Cocoa Crop Purchases In Thousands of Metric[1] Tons

Crop Year	Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		
	Mid.	End	Mid.	End	Mid.	End	Mid.	End	Mid.	End	Mid.	End	Mid.	End	Final
1973–4	2.2	5.5	18.7	52.2	92.9	133.4	173.2	215.5	280.7	309.4	328.7	334.5	336.1	336.9	337.3
1974–5	—	—	27.0	76.1	119.1	169.8	231.3	295.5	320.8	338.6	351.8	358.3	360.6	361.2	369.4
1975–6	—	—	53.8	105.6	165.9	220.3	265.3	317.7	344.3	360.9	374.3	380.7	382.9	384.0	388.5
1976–7	—	—	39.4	82.1	123.8	165.9	217.7	245.8	266.5	282.5	299.3	301.5	304.6	304.9	304.9
1977–8[1]	—	—	—1 to 11—		20.6	35.3	60.5	120.0	151.1	178.6	247.7	257.7	260.9	262.0	263.2
1978–9	—	—	36.0	61.3	99.5	144.5	179.3	199.8	227.9	238.0	243.1	245.2	246.0	246.6	249.0
1979–0	—	—	3.7	14.9	31.9	66.4	117.4	172.5	228.9	233.6	266.4	274.0	277.3		

[1] Data prior to 1977–78 are in THOUSANDS OF LONG TONS. *Source: Unofficial Private Estimates; Ghana Marketing Board*

Confectionery Sales by Manufacturers in the United States In Millions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1973	184	172	182	154	143	135	114	183	233	227	234	180	2,141
1974	211	220	241	200	193	180	172	251	309	309	265	220	2,771
1975	246	250	221	207	202	183	168	245	300	316	251	241	2,830
1976	259	270	277	238	196	192	157	234	307	267	282	233	2,912
1977[1]	223	270	280	211	202	197	142	298	343	289	279	275	3,059
1978[1]	252	291	271	207	211	193	174	314	306	312	310	312	3.769
1979[1]	258	359	332	313	285	258	240	403	435	461	423	352	4,183

Compiled by the Department of Commerce from reports of over 200 manufacturers. The number reporting vary from month to month. Represents app. 70% of sales by all manufacturers of candy and competitive chocolate products. [1] Preliminary.
Source: Dept. of Commerce

United States Imports of Cocoa (Includes Shells) In Thousands of Long Tons

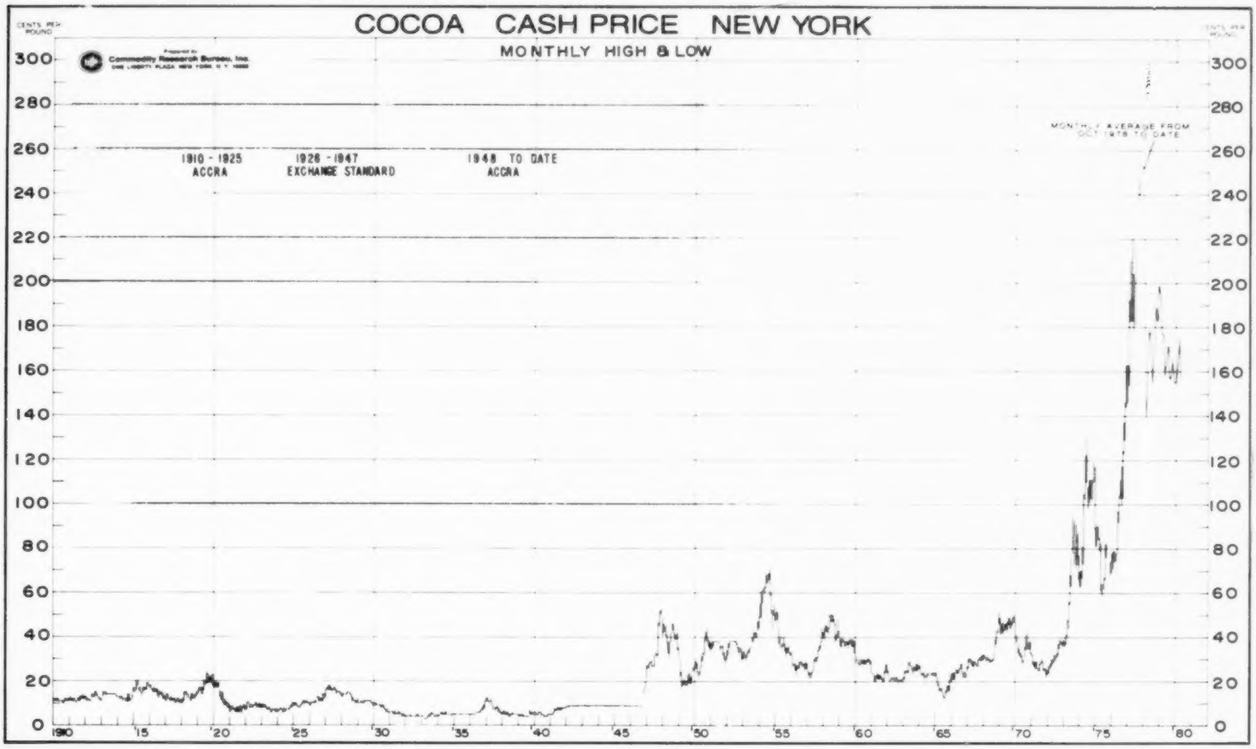
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1975	20.5	17.3	21.7	17.9	17.4	18.7	16.6	12.5	17.4	21.5	18.6	33.0	233.0
1976	33.9	16.4	28.8	22.4	21.4	19.5	16.3	20.9	19.6	8.2	11.6	16.5	235.4
1977[1]	30.6	21.5	19.0	16.1	25.1	13.6	10.9	10.8	6.2	8.1	4.7	5.5	172.1
1978[1]	19.4	20.3	27.9	20.5	16.5	12.4	16.1	14.7	7.3	35.6	18.6	20.2	209.7
1979[1]	27.3	26.7	14.6	12.8	8.8	13.7	11.8	15.7	5.7	10.1	10.0	8.0	165.2
1980[1]	11.1	9.2											

[1] Preliminary. *Source: Department of Commerce*

Spot Cocoa Bean Prices (ACCRA) in New York   In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Average
1975	89.5	88.8	84.8	75.5	59.5	62.5	73.0	78.0	77.5	77.5	68.5	76.0	75.9
1976	73.5	75.5	74.0	88.3	93.5	107.5	103.5	114.5	131.3	132.5	161.5	154.3	109.2
1977	173.0	190.3	207.5	198.3	199.3	199.3	199.3	199.3	256.0	250.0	250.0	250.0	214.4
1978	165.0	140.0	178.0	179.0	170.0	155.0	161.0	175.0	189.0	183.0	199.0	196.0	174.2
1979	193.0	177.0	176.0	157.5	165.0	172.0	158.0	157.0	166.0	159.0	154.5	155.0	165.8
1980	163.8	173.5	157.0										

Source: Bureau of Labor Statistics (0191-0221)



Visible Stock of Cocoa in New York Warehouses[1], at End of Month   In Thousands of Bags

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1975	9.5	9.7	6.0	7.0	23.9	21.9	11.5	3.5	.5	.1	.1	.1
1976	.1	.1	.1	.1	3.0	.7	.7	.7	.7	.7	—	2.6
1977	1.7	1.3	1.9	.9	.9	14.6	47.3	44.6	13.4	5.6	4.9	8.8
1978	5.0	9.3	24.2	19.4	24.2	29.1	38.0	17.9	12.2	16.0	19.8	28.2
1979	35.2	33.6	31.1	31.4	40.2	44.2	125.5	127.5	104.7	101.7	90.0	87.3
1980	85.3	68.2	18.0	29.4	42.8							

[1] In licensed & unlicensed warehouses of storage companies licensed by the N.Y. Cocoa Exch. *Source: N.Y. Cocoa Exch.*

Visible Stock of Cocoa in Philadelphia Warehouses, at End of Month   In Thousands of Bags

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1975	22.6	19.1	16.2	23.8	42.2	26.0	24.5	15.7	16.4	9.5	13.7	20.1
1976	27.4	32.1	36.4	54.3	63.1	70.0	82.9	77.7	68.6	72.3	57.6	47.8
1977	47.8	62.2	61.2	25.5	22.5	23.4	18.2	16.3	10.6	4.1	.3	.2
1978	.2	.6	6.0	14.0	.5	.8	.8	.7	14.3	12.0	23.8	50.6
1979	60.4	77.7	107.7	114.4	110.6	101.7	100.2	124.1	132.5	106.3	81.3	86.3
1980	64.6	52.5	40.0	33.4	46.4							

Source: N.Y. Cocoa Exchange

Coconut Oil and Copra

World production of copra in the 1979/80 season was estimated by the Foreign Agricultural Service of the USDA early in 1980 at 5.1 million tonnes, nearly 10 percent above estimated 1978/79 output and the highest production since the 5.3 million tonnes produced in 1975/76. World copra meal production was forecast by the USDA at .81 million tonnes, up from about .74 million in the 1978/79 season. World coconut oil production in 1979/80 was forecast by the USDA at nearly 3.3 million tonnes, up from close to 3.0 million in 1978/79.

Early in 1980, a trade study forecast a 9.5 percent increase in Philippine coconut production in 1980 to 2.3 million tonnes, with a further 15 percent increase projected for 1981, based on a seasonal production pattern of two good crop years following a year of a reduced harvest. The production of coconuts in Indonesia in 1980 was expected in some trade quarters to increase slightly to nearly 1.6 million tonnes, copra equivalent. An earlier government decision to substitute domestic consumption of palm oil for the more expensive coconut oil was expected to permit total exports of as much as 50,000 to 75,000 tonnes of coconut oil in 1980.

Coconut oil imports by the United States in calendar year 1979 totaled 444,432 tonnes, off 4 percent from the 463,803 tonnes imported in 1978, partly reflecting an apparent reduction in its use in soap manufacturing late in 1979. A major edible oil use is in those confectionery and bakery goods for which satisfactory substitutes have not become available.

World Copra Exports by Principal Countries In Thousands of Metric Tons

Year	Sri Lanka (Ceylon	Western Samoa	Indonesia	New Guinea	Papua	Philippines	Malaysia (Net Exports)	New Hebrides	Africa	Solomon Islands	World Total (Regis.)	World Total (Un-regist.)	World Total (Registered & Unregist.)
1966	21		118	—	—	934	27	—	64	—	1,364	62	1,426
1967	16	8	112	60	13	831	12	42	68	25	1,252	11	1,263
1968	21	13	217	78	18	664	15	34	77	17	1,206	43	1,249
1969	19	15	158	78	17	576	25	37	76	24	1,079	28	1,107
1970	15	10	185	71	17	420	19	31	70	21	900	39	939
1971	18	18	64	74	17	710	15	34	64	27	1,079	39	1,118
1972	44	19	42	77	23	991	16	30	58	21	1,362	28	1,390
1973	3	14	36	50	23	728	12	22	67	15	1,015	7	1,022
1974[1]	—	15	—	70	28	309	8	36	57	22	580	7	585
1975[1]	1	20	33	—93—		827	8	30	38	25	1,123	12	1,135
1976													

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

World Coconut Oil Exports by Principal Countries In Thousands of Metric Tons

Year	Sri Lanka (Ceylon	Singapore[2]	Indonesia	Malaysia[2]	Philippines Registered	Sarawak[2]	Total Asia	Mozambique	Total Africa	Fiji	New Guinea	Total Oceania	World Total
1966	74	16	1	24	316	2	433		8		22	37	478
1967	68	12	5	29	234	3	351	9	12	14	24	38	401
1968	64	39	18	38	270	4	434	8	10	17	23	47	491
1969	56	22	4	27	213	4	326	8	11	17	21	49	387
1970	56	24	3	43	337	4	467	7	14	19	21	51	533
1971	71	9	4	37	409	4	533	7	11	17	27	52	603
1972	87	15	34	21	467	2	626	6	8	15	27	53	694
1973[1]	18	5	17	25	426	4	494	10	10	18	29	58	568
1974[1]	22	4	0	44	432	—	502	9	11	13	25	49	568
1975[1]	55	11	24	35	593	—	732	4	5	15	28	61	802
1976[1]	61		13		822						24		
1977													

[1] Preliminary. [2] Net Exports. *Source: Foreign Agricultural Service, U.S.D.A.*

Supply & Distribution of Coconut Oil in the United States In Millions of Pounds

	Coconut Oil							Coconut Oil (Refined)				
Year	Production From Copra	Imports[2]	Stocks Dec. 31[3]	Total Supply	Exports & Shipments	Factory Consumption	Appar. Dom. Disappearance	Total	Jan.–March	April–June	July–Sept.	Oct.–Dec.
1967	350	494	224	1,078	12	801	864	565.1	138.6	146.4	147.5	132.6
1968	392	434	134	960	6	726	811	551.7	148.6	138.5	137.4	127.2
1969	386	429	197	1,012	8	733	834	547.5	136.9	139.8	137.6	133.2
1970[1]	247	595	206	1,048	12	750	789	544.0	131.5	141.3	138.1	133.1
1971[1]	269	628	203	1,101	22	740	872	553.3	143.5	143.9	124.0	142.0
1972[1]	295	677	229	1,201	13	888		638.6	145.8	160.1	140.0	147.1
1973[1]	282	720	106	1,108	25	943		649.4	176.9	183.4	147.6	141.5
1974[1]	38	542	118	698	11	752		540.1	133.7	118.0	133.4	155.0
1975[1]	—	869	114	938	18	902		716.2	146.2	169.6	186.8	213.6
1976[1]	—	1,207	123	1,330	58	1,141		849.2	214.2	223.7	216.1	195.2
1977[1]		994	133	1,109	31	975		729.4	184.5	196.7	175.6	172.6
1978[1]		1,023	147	1,170	34			768.3	187.9	207.5	196.6	176.2
1979[1]								594.8	183.9	137.4	143.8	129.7
1980												

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[1] Preliminary. [2] Imports for consumption. [3] Includes G.S.A. stockpile & in U.S. bond.
Sources: Bureau of the Census; Agricultural Marketing Service

Utilization of Coconut Oil in the United States In Millions of Pounds

	Food Uses					Nonfood Uses					
Year	Shortening	Margarine	Salad Oil[3]	Other	Total	Soap	Fatty Acids	Foots & Loss	Drying Oil Pdt's.	Other	Total
1967	40	15	—	360	361	146	55	36	5	207	449
1968	41	14	—	322	368	154	64	35	8	172	434
1969	47	15	—	341	401	150	56	33	9	184	432
1970	45	10	1	293	343	164	60	33	6	178	441
1971	56	7	2	393	457	166	60	38	5	148	378
1972	82	6	24	323	411	180	85	44	5	123	414
1973	86	4	8	375	465	181	95	44	5	154	431
1974	61	9	15	252	286	167	82	29	4	155	423
1975[1]	106	20	36	249	442	163	90	34	4	—	430
1976[2]	128	4	—	363	492	194	107	45	5	192	499
1977[2]	78	5		323	383	198	116		5	116	495
1978[2]	75	7				184					
1979											

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[1] Preliminary. [2] Estimate. [3] or Cooking Oil. *Source: Economic Research Service, U.S.D.A.*

U.S. Consumption of Coconut Oil in End Products In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Total
1966	65.6	59.1	70.1	61.5	70.2	74.7	57.0	67.1	70.5	67.4	60.2	60.0	783.4
1967	65.9	56.4	62.7	65.0	68.3	69.0	63.5	69.5	62.9	68.4	61.4	53.1	766.1
1968	61.1	56.6	64.7	63.8	67.9	57.8	54.2	61.1	57.2	65.6	61.5	54.1	725.6
1969	59.6	59.9	63.8	63.8	60.5	61.0	52.3	59.4	65.1	67.7	58.3	61.2	732.6
1970	55.1	64.7	63.4	71.1	63.1	66.7	55.6	61.3	62.5	62.1	60.4	63.6	750.2
1971	63.6	60.9	68.9	64.3	63.4	68.4	52.1	53.4	60.8	63.1	62.3	59.2	740.4
1972	57.4	63.0	66.4	69.7	73.0	76.5	65.3	75.1	71.4	69.7	70.9	66.5	842.5
1973	81.8	70.8	81.1	72.3	83.6	80.0	66.5	70.9	77.3	86.1	68.5	62.1	901.0
1974	71.4	62.9	66.2	63.5	55.8	54.1	50.7	51.7	59.6	67.4	66.3	56.4	726.0
1975	67.6	58.2	68.1	70.7	67.7	71.8	61.8	75.2	81.1	87.8	78.5	76.8	865.3
1976	80.3	78.4	88.1	83.3	84.9	90.3	80.2	82.6	80.8	79.2	87.1	75.1	990.3
1977[1]	73.4	69.9	82.6	73.0	73.9	79.1	63.1	71.9	73.1	76.3	77.4	65.0	878.7
1978[1]	69.3	71.0	81.5	88.9	87.6	76.1	73.6	79.0	72.4	84.0	75.4	55.4	914.2
1979[1]	72.7	66.3	83.3	69.1	69.8	62.0	50.4	58.5	58.0	54.4	55.3	48.5	747.3
1980[1]	50.4	48.3											

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[1] Preliminary. *Source: Bureau of the Census*

COCONUT OIL AND COPRA

Imports of Coconut Oil into the United States In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	196.8	79.6	18.4	20.2	24.3	25.8	24.0	17.0	34.2	31.4	35.1	16.2	523.0
1968	115.8	59.6	20.3	16.9	34.2	35.7	40.5	16.1	30.7	41.0	17.5	14.6	442.8
1969	152.3	40.1	10.3	19.2	34.2	33.0	31.6	28.3	18.4	28.7	21.2	7.2	424.6
1970	146.5	49.3	30.3	18.4	51.7	76.1	47.6	46.9	27.0	63.9	14.0	12.3	584.2
1971	129.2	41.7	52.9	54.9	47.5	45.5	35.3	30.2	79.3	67.8	28.2	16.1	628.6
1972	22.0	144.6	67.9	27.3	70.4	58.2	53.1	47.0	31.7	67.1	37.3	50.4	677.0
1973	69.8	112.5	70.9	36.7	61.3	43.7	41.9	64.1	29.8	46.7	64.8	74.6	716.9
1974	24.3	25.3	45.0	48.2	35.3	26.5	93.2	24.7	55.0	78.4	44.8	41.7	542.3
1975	47.0	40.5	70.0	53.4	90.8	27.6	38.2	64.6	76.3	101.6	178.5	80.4	869.1
1976	100.7	142.9	64.5	93.2	95.1	66.7	102.1	110.4	111.3	98.0	77.9	144.1	1,207
1977[1]	86.8	128.8	99.2	64.9	89.4	108.8	66.3	75.0	76.1	29.4	75.1	94.5	994.3
1978[1]	65.5	127.1	102.9	72.4	98.3	79.9	104.5	83.7	47.0	80.4	100.7	60.1	1,023
1979[1]	167.2	83.7	87.7	55.6	52.6	70.3	44.5	86.4	77.4	86.6	92.1	75.7	979.8
1980[1]	75.1	50.1											

[1] Preliminary. *Source: Department of Commerce*

Stocks of Coconut Oil (Crude & Refined) in the United States In Millions of Pounds

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1970	59.4	200.4	139.5	138.3	122.1	122.9	134.0	114.0	91.8	102.2	109.9	105.1
1971	100.8	161.8	134.4	139.5	132.7	134.2	136.8	147.4	124.8	108.2	115.8	110.2
1972	103.9	163.1	154.8	158.9	142.1	170.2	168.5	157.8	121.5	111.1	136.2	111.1
1973	116.5	208.2	220.3	201.1	173.1	174.1	159.1	140.9	140.4	114.3	79.0	102.7
1974	105.9	100.1	87.3	105.8	92.9	85.7	77.8	90.5	107.5	121.7	113.6	105.8
1975	118.1	112.8	100.9	104.9	97.6	98.9	80.7	94.3	90.7	106.9	120.5	131.7
1976[1]	114.1	140.6	135.4	113.6	114.1	125.3	125.6	127.3	150.3	127.4	142.4	137.9
1977[1]	123.0	163.9	151.6	156.3	170.7	160.1	150.5	160.5	178.8	136.7	128.6	114.6
1978[1]	133.2	146.5	176.7	173.6	166.8	140.2	146.0	132.6	130.6	144.8	115.6	112.6
1979[1]	147.2	198.4	195.7	177.2	138.6	148.3	112.5	129.9	131.6	157.0	211.5	198.4
1980												

[1] Preliminary. *Source: Bureau of Census*

Average Price of Coconut Oil (Crude)[1] at the Pacific Coast (United States) In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	13.0	12.8	12.9	12.7	12.9	13.5	13.9	14.1	15.0	16.2	18.6	18.3	14.5
1968	18.6	20.3	21.3	22.0	22.8	17.7	15.8	17.2	14.4	12.8	14.2	14.6	17.7
1969	13.4	12.9	12.9	12.9	12.9	12.9	13.4	13.2	13.6	14.0	14.9	16.4	13.6
1970	16.4	16.2	16.4	16.7	16.4	16.3	16.2	15.9	16.5	16.2	16.3	15.9	16.3
1971	15.8	14.5	13.8	13.3	13.1	13.8	14.2	14.3	14.1	13.2	12.1	11.3	13.6
1972	10.6	9.9	10.0	10.7	10.1	9.7	9.4	9.3	9.2	9.4	9.2	9.6	9.8
1973	9.9	13.1	14.5	16.9	20.0	20.8	25.9	26.6	27.8	30.0	32.6	43.1	23.4
1974	49.1	53.5	60.5	60.3	60.0	61.6	60.5	51.7	42.5	42.6	35.3	31.4	50.7
1975	26.3	22.6	22.1	21.8	18.9	17.2	20.1	21.5	19.8	18.0	16.1	16.2	20.0
1976	16.1	16.1	17.0	17.1	17.2	18.9	22.3	21.6	23.8	23.0	24.4	26.8	20.3
1977	26.3	28.2	35.4	37.3	34.3	29.9	24.8	21.8	22.8	23.9	24.9	26.4	27.8
1978	26.4	27.1	31.9	30.5	29.9	32.4	32.9	32.3	39.2	41.6	42.6	42.6	34.1
1979	46.3	47.2	47.0	49.9	53.2	57.3	57.3	53.7	44.8	42.5	42.4	40.2	48.5
1980	40.8	40.6	37.5										

[1] Tank cars, f.o.b. mill. Includes 1¢ import duty. *Source: Bureau of Labor Statistics*

Coffee

U.S. per capita consumption continued to rebound modestly during 1979, according to the annual winter coffee drinking survey conducted for the International Coffee Organization (ICO). The rate for persons age 10 and older was 2.06 cups per day, compared with a revised 1.97 cups in 1978 and the record low of 1.94 cups set in 1977, when green coffee prices peaked at over $3.40 a pound. Preliminary USDA data indicate U.S. per capita consumption in 1979 was 11.5 pounds, green bean equivalent, up about 1 pound from 1978 use. But with prices expected to remain relatively high in 1980, the long-term decline in U.S. per capita consumption was considered likely to continue.

According to the Bureau of Labor Statistics, the wholesale price of a one-pound can of roasted coffee averaged $2.74 during 1979, vs. $2.86 in 1978. The wholesale price averaged $2.44 in January and rose to $3.02 a pound in August as a result of the frost that struck Brazilian coffee areas on May 30 and June 1.

Another factor increasing world coffee prices was intervention in the futures market by the Bogota Group of producers (Brazil, Mexico, Colombia, El Salvador, Venezuela, Costa Rica, Guatemala and Honduras). The producers, who pooled $140 million to support prices in 1978, formed a Panama-based corporation named Pan Cafe to take over its trading activities in April 1980. The company was capitalized at $500 million, according to trade reports.

International Coffee Organization

Because of its concern over the activities of the Bogota Group, no action by the U.S. Congress was expected regarding legislation implementing U.S. membership in the International Coffee Agreement, and the U.S. was expected to continue to oppose any revision in the ICA's economic provisions, including the export quota trigger price of 77 cents a pound.

Under a resolution adopted in September 1979, if the International Coffee Organization's (ICO) 20-day moving average (ICO composite price, 1976 ICA basis) falls below 168.27 cents a pound, the ICO Executive Board must meet to discuss the situation. On January 28, 1980, the average fell to 167.20 cents, and a meeting was called for February 7. Though no action was taken at that meeting or a subsequent one in late March, world coffee prices recovered. The ICO 1976 composite price averaged 130.93 cents in January, peaked at 213.00 cents on June 29 and closed 1979 at 177.17 cents.

U.S. Coffee Trade

U.S. imports of green coffee in 1979 totaled 19.4 million bags, a 7 percent increase from the 18.1 million imported in 1978. Instant coffee imports (green-weight equivalent) totaled 1.5 million bags, and roasted coffee imports amounted to 508,000 bags, increases of 24 percent and 23 percent, respectively, from 1978 imports.

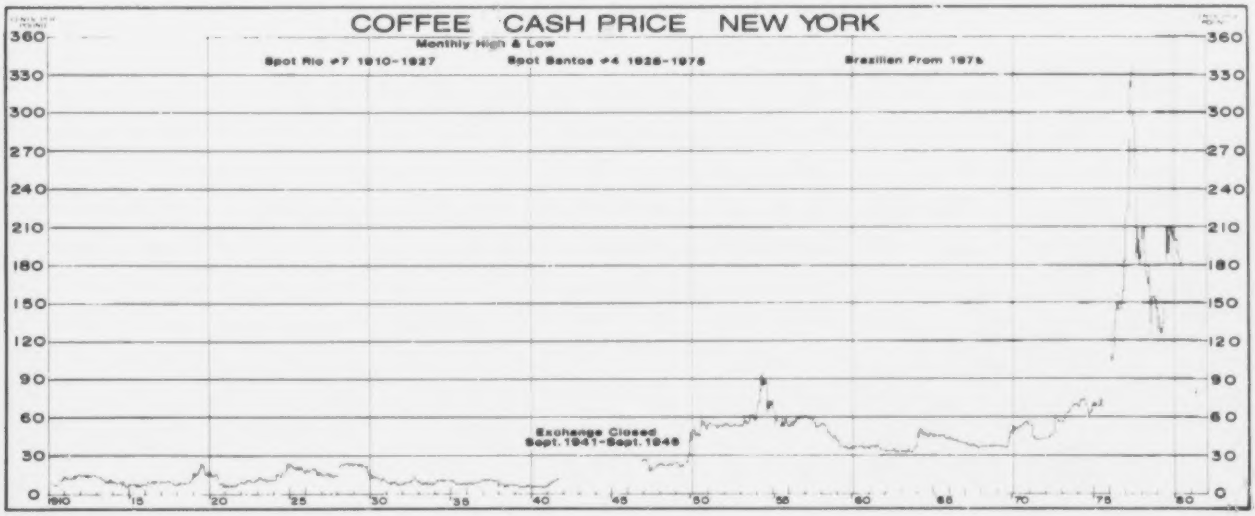
U.S. green coffee roastings increased 4 percent in 1979 to 17 million bags from 16.3 million a year earlier, while year-end green coffee inventories held by U.S. roasters, importers and dealers totaled 2,521,000 bags, up 7 percent from 2,347,000 on December 31, 1978.

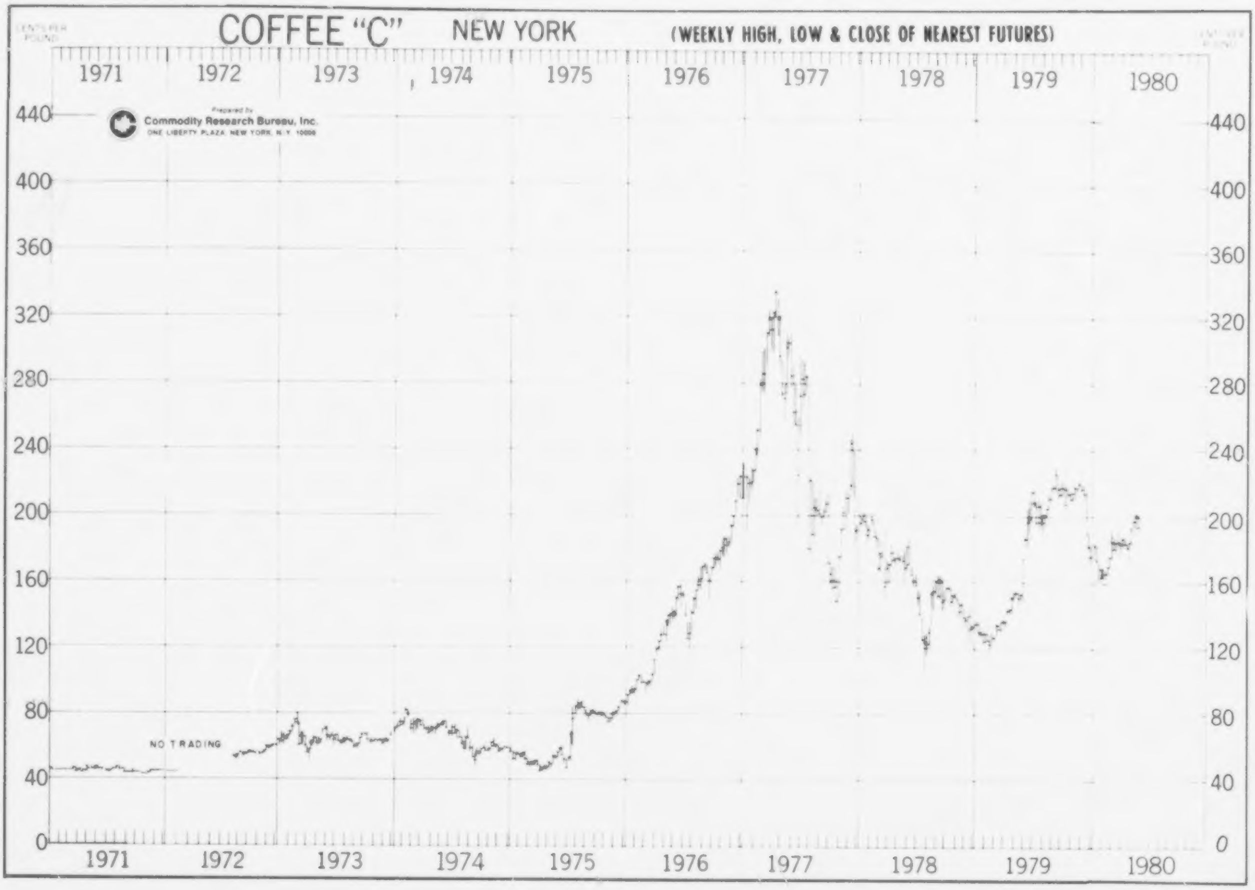
The USDA has estimated 1979/80 world coffee production at 81.1 million statistical bags (of 60 kilograms or 132.276 pounds), up 3 percent from the 1978/79 output of 78.4 million bags. Exportable production (total harvested less domestic consumption in producing nations) was estimated at 61.1 million bags, up 3 percent from 1978/79.

Brazil, still the world's leading producer, has made substantial recovery from the 1975 frost that affected more than one-third of the nation's 2.6 billion coffee trees. The USDA has estimated Brazil's 1979/80 crop at 22.5 million bags, compared with 9.3 million in 1976/77 and the pre-1975 frost average of 20.4 million (1970/71–1974/75).

Futures Markets

Arabica coffee futures are traded on the New York Coffee, Sugar and Cocoa Exchange. An arabica contract also is offered in London, where it was revived for the third time in April 1980. The leading robusta futures market is in London.





World Green Coffee (Total) Production In Thousands of Bags (60 Kilograms—132.276 Lbs. Per Bag)

Crop Year	Angola	Brazil	Cameroon	Colombia	Costa Rica	Ethiopia	Guatemala	India	Indonesia	Ivory Coast	Mexico	Salvador	Uganda	Zaire (Congo, K)	World Total
1973–4	3,200	14,500	1,260	7,800	1,570	1,700	2,200	1,535	2,750	3,285	3,300	2,378	3,100	1,317	62,459
1974–5	3,444	27,500	1,816	9,000	1,390	2,488	2,540	1,630	2,675	4,500	3,900	3,300	3,331	1,150	81,691
1975–6	1,180	23,000	1,482	8,500	1,276	2,677	2,043	1,498	3,049	5,266	3,856	2,530	2,214	1,072	73,008
1976–7	1,112	9,300	1,307	9,300	1,331	2,882	2,613	1,813	2,824	4,867	3,650	2,968	2,664	1,437	62,059
1977–8	1,121	17,500	1,371	11,050	1,490	3,024	2,350	2,180	3,241	3,320	3,600	2,400	1,868	1,279	70,142
1978–9	900	20,000	1,650	11,300	1,764	3,000	2,600	1,856	4,652	4,667	3,800	3,000	2,000	1,300	76,917
1979–0[1]	1,000	22,500	1,520	11,500	1,600	3,000	2,700	1,841	4,200	4,835	3,800	3,000	2,200	1,300	80,238

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

World Green Coffee (Exportable)[3] Production In Thousands of Bags (60 Kilograms—132.276 lbs. Per Bag)

Crop[2] Year	Angola	Brazil	Cameroon	Colombia	Costa Rica	Ethiopia	Guatemala	Indonesia	Ivory Coast	Kenya	Mexico	Salvador	Uganda	Zaire (Congo, K)	World Total
1971–2	3,300	14,850	1,220	5,750	1,190	1,490	1,845	1,320	4,400	973	1,835	2,440	2,830	1,200	53,083
1972–3	3,400	15,000	1,533	7,430	1,160	1,410	1,990	1,650	4,985	1,240	2,100	1,935	3,280	1,265	57,285
1973–4	3,095	6,370	1,213	6,250	1,400	1,005	1,925	1,795	3,219	1,073	1,690	2,203	3,078	1,184	43,674
1974–5	3,352	19,500	1,766	7,400	1,237	1,051	2,255	1,700	4,432	1,082	2,156	3,130	3,302	1,017	62,862
1975–6	1,100	15,000	1,455	7,100	1,104	1,011	1,753	2,033	5,107	1,224	2,456	2,350	2,192	922	54,307
1976–7	248	1,800	1,281	7,900	1,147	1,049	2,315	2,010	4,782	1,644	2,400	2,783	2,634	1,270	43,452
1977–8	846	10,000	1,344	9,500	1,305	1,135	2,045	2,722	3,284	1,367	2,200	2,210	1,838	1,112	51,571
1978–9[1]	820	12,000	1,622	9,600	1,575	1,100	2,290	3,868	4,625	1,083	2,650	2,805	1,970	1,133	57,878
1979–0[1]	920	14,600	1,490	9,750	1,407	1,200	2,385	3,184	4,785	1,202	2,400	2,800	2,170	1,130	60,128

[1] Preliminary. [2] Coffee marketing year begins in July in some countries & in others about Oct. [3] Exportable production represents total harvested production minus estimated domestic consumption. *Source: Foreign Agricultural Service, U.S.D.A.*

U.S. Coffee[1] Roastings & Inventories In Thousands of Bags (132.276 Pounds Per Bag)

Year	Roastings (Green Weight)—By Quarters 1st	2nd	3rd	4th	Total	Inventories Mar. 31	June 30	Sept. 30	Dec. 31
1969	5,370	5,080	4,780	5,621	20,851	3,249	3,389	3,361	3,811
1970	5,390	5,143	4,352	5,190	19,960	3,334	3,487	3,461	2,593
1971	5,164	4,663	4,481	5,299	19,607	2,537	3,027	5,198	4,000
1972	5,316	4,972	4,660	5,127	20,075	4,254	3,506	3,852	3,663
1973	5,203	4,784	4,275	5,153	19,415	3,920	4,325	4,582	4,146
1974	5,103	4,629	3,840	4,997	18,569	4,940	5,108	4,072	2,770
1975	4,713	4,469	4,743	4,626	18,551	2,468	2,523	3,467	3,300
1976	5,612	4,977	3,853	4,621	19,063	3,194	2,908	2,961	2,805
1977[2]	4,752	3,239	2,364	3,878	14,233	3,519	3,115	2,638	1,684
1978[2]	4,467	3,554	3,781	4,497	16,299	2,161	2,202	2,131	2,347
1979[2]	4,681	4,303	3,755	4,266	17,005	2,345	2,405	2,724	2,521

[1] Green coffee, excluding stocks & roastings by Military Services. [2] Preliminary. *Source: Bureau of the Census*

Total Coffee Imports (for Consumption) into the U.S. In Thousands of Bags (132.276 Pounds)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	1,783	1,841	1,716	1,639	1,644	1,891	1,550	1,616	1,355	1,713	1,597	1,382	19,727
1971	2,002	1,530	1,480	2,032	1,759	1,941	2,132	2,720	2,754	621	875	1,818	21,669
1972	2,547	2,172	1,137	1,146	1,784	1,452	1,434	1,947	2,149	2,057	1,643	1,288	20,757
1973	1,996	1,844	2,101	2,050	2,494	1,710	1,573	1,731	1,399	1,624	1,624	1,652	21,799
1974	2,182	2,022	2,457	2,264	1,873	1,529	1,499	1,152	821	740	1,159	1,550	19,248
1975	1,852	1,656	1,535	1,448	1,365	1,736	1,626	1,868	2,533	1,784	1,587	1,299	20,289
1976	1,664	1,744	2,311	1,636	1,546	1,864	1,909	1,637	956	1,013	1,649	1,858	19,788
1977	1,994	1,707	1,839	1,824	1,224	1,137	756	695	678	635	972	1,347	14,808
1978	1,682	1,575	1,707	1,557	1,345	1,249	1,316	1,124	1,337	1,901	1,689	1,651	18,133
1979	1,747	1,353	1,631	2,037	1,619	1,617	1,597	1,404	1,632	1,273	1,593	1,893	19,396
1980	2,020	1,366											

Source: U.S. Dept. of Commerce

Total Coffee Imports (for Consumption) into the U.S. In Thous. of Bags (of 132.276 Pounds Each or 60 Kilograms)

Year	Ethiopia	Brazil	Colombia	Costa-Rica	Domin. Repub.	Ecuador	Guatemala	Indonesia	Mexico	Ivory Coast	Angola	Salvador	Venezuela	Grand Total
1970	1,071	4,717	2,497	375	352	600	716		982		1,385	539	253	19,732
1971	1,130	6,536	2,642	350	338	404	813		1,286		1,590	645	246	22,686
1972	965	6,152	2,711	294	401	490	689	744	1,070	977	1,297	391	243	20,769
1973	1,062	4,596	2,868	284	507	435	1,110	626	1,641	1,150	1,693	1,047	174	21,789
1974	505	2,725	3,090	268	381	512	1,096	942	1,324	749	2,396	1,111	246	19,245
1975	533	3,748	3,400	192	336	694	874	765	1,662	966	1,202	1,018	182	20,289
1976	703	3,092	2,688	179	551	767	749	1,082	1,869	1,330	871	1,045	288	19,788
1977	288	2,453	1,951	272	585	505	832	860	1,406	673	49	1,037	155	14,808
1978	481	2,694	2,808	334	461	1,044	942	1,177	1,390	775	304	627	239	18,133
1979[1]	[illegible]49	1,890	3,891	516	548	638	1,26[illegible]	1,294	1,934	834	40	1,123	121	19,396

[1] Preliminary. *Source: U.S. Department of Commerce*

Average Spot Price of Coffee (Santos No. 4) in N.Y. In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1970	54.8	54.8	54.3	53.8	53.8	53.8	56.8	57.0	57.8	58.8	57.5	55.0	55.7
1971	55.0	55.0	48.0	45.0	43.8	43.8	43.0	43.3	43.3	43.3	44.0	44.0	46.1
1972	N.A.	N.A.	N.A.	46.3	48.0	48.5	N.A.	62.5	59.0	58.0	56.0	57.0	54.4
1973	57.0	62.0	65.5	65.0	65.0	67.0	70.0	70.0	72.5	72.3	73.0	72.0	67.6
1974	72.0	71.0	75.0	75.5	76.5	74.0	72.0	63.0	60.0	64.0	69.0	70.0	70.2
1975	67.5	68.0						No Quotations					67.8
1976		No Quote			93.5		No Quote		152.0		No Quote		122.8
1977							No Quote						
1978				No Quote				135.0	154.0	154.0	153.0	146.0	148.4
1979	146.0	127.0	136.0	138.0	148.0	180.0	209.0	201.0	206.0	208.0	205.0	212.0	176.3
1980	189	213	205										

Source: Bureau of Labor Statistics (01-81-01)

Coke

World Production of Metallurgical Coke[1], by Specified Countries In Millions of Short Tons

Year	Belgium	Canada	Czechoslovakia	France	W. Germany	United Kingdom	India	Italy	Japan	Netherlands	Poland	China	U.S.S.R.[2]	United States	World Total
1967	7.6	4.4	10.1	13.9	38.8	17.2	8.4	6.9	24.4	3.7	15.4	14.3	77.0	64.6	335.0
1968	8.0	5.3	10.4	13.6	40.0	18.2	8.1	7.0	28.8	3.2	15.9	17.0	78.8	63.7	348.1
1969	8.0	5.0	11.0	15.0	43.0	22.5	9.9	7.3	34.2	2.2	16.3	19.0	81.0	64.8	370.2
1970	7.8	5.7	11.3	15.6	44.0	22.4	9.9	7.8	41.6	2.2	15.3	20.0	83.1	66.5	386.3
1971	7.5	5.1	11.5	13.8	41.4	21.1	9.9	7.7	42.7	2.1	15.6	24.0	86.3	57.4	377.7
1972	8.0	5.2	11.8	12.7	38.0	14.8	10.0	7.8	39.8	2.2	17.5	26.5	87.9	60.5	375.4
1973	8.6	5.9	10.1	13.1	37.5	19.6	9.8	8.5	48.9	2.9	18.7	30.9	89.7	64.3	422.8
1974	8.9	6.0	10.3	12.9	38.5	17.4	9.0	9.4	50.3	3.0	18.7	30.9	91.1	61.6	424.9
1975	6.3	5.8	10.2	12.1	38.4	17.5	7.8	8.9	49.4	3.0	19.0	30.9	92.1	57.2	417.4
1976[2]	8.6	5.8	11.9	12.0	35.2	17.4	9.9	8.8	47.9	3.1	19.8	30.9	93.0	58.3	424.9
1977[3]	6.1	5.4	9.9	11.9	30.3	15.6	11.0	8.9	47.0	2.8	21.0	30.9	94.2	53.5	411.8
1978[3]														49.0	
1979														52.9	

[1] Excluding Breeze. [2] Preliminary. [3] Estimate. *Source: Bureau of Mines*

U.S. Salient Statistics of Coke In Thousands of Net Tons

Year	Production			Producers' Stocks—Jan. 1						Exports to		Value of		Value Per Ton Sold	
					Oven Coke at Plants							Mil. $		$	
	Total	Oven	Beehive	Total	Merchant	Furnace	Beehive	Exports	Imports	Canada	Mexico	Coke Produced[2]	All Coal Chemical Mater.	Oven Coke	Beehive Coke
1967	64,580	63,775	806	3,079	215	2,863	1	710	92			1,119	293	22.67	15.03
1968	63,653	62,878	775	5,468	506	4,961	1	792	94	247.5	346.5	1,187	281	22.00	15.00
1969	64,757	64,047	710	5,985	348	5,637	1	1,629	173	292.2	629.8	1,403	289	24.50	16.23
1970	66,525	65,654	871	3,120	99	3,020	1	2,478	153	347.1	376.0	1,899	293	29.97	19.89
1971	57,436	56,664	772	4,113	95	4,018	1	1,509	174	492.4	80.2	1,849	260	37.41	21.45
1972	60,507	59,853	654	3,510	134	3,376	1	1,232	185	488.0	105.2	2,080	295	40.70	22.04
1973	64,325	63,496	829	2,941	351	2,590	1	1,395	1,094	747.5	102.3	2,575	356	42.92	27.31
1974	61,581	60,737	845	1,184	71	1,113	—	1,278	3,540	709.7	158.0	4,609	653	65.74	44.02
1975	57,207	56,494	713	935	25	910	—	1,273	1,819	680.6	107.3	4,607	654	87.64	65.17
1976	58,333	57,728	605	5,001	278	4,718	—	1,315	1,311	754.4	87.7	5,021	920	94.35	72.48
1977[1]	53,509	53,060	449	6,491	314	6,173	—	1,241	1,829	634.9	49.4	4,653	883	103.27	78.87
1978[1]	49,009	48,593	355	6,444	136	6.308	—	693	5.722	299	37.4				
1979[1]	52,900			3,534	184	3,350	—	1,440	3.974	598					
1980[1]				5,163	549	4,613	—								

[1] Preliminary. [2] Beehive and oven, coke & breeze. *Source: Bureau of Mines*

Oven Coke Production in the United States In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	5,457	5,000	5,557	5,316	5,398	5,102	5,108	5,209	5,155	5,413	5,413	5,647	63,775
1968	5,602	5,352	5,686	5,529	5,692	5,468	5,453	5,046	4,633	4,613	4,669	5,137	62,878
1969	5,177	4,873	5,297	5,312	5,514	5,347	5,386	5,412	5,274	5,552	5,333	5,570	64,047
1970	5,332	5,069	5,655	5,468	5,603	5,402	5,442	5,368	5,425	5,680	5,537	5,672	65,654
1971	5,647	5,054	5,752	5,621	5,693	5,268	4,816	3,455	3,976	3,961	3,220	4,200	56,664
1972	4,763	4,651	5,076	5,091	5,237	4,976	5,024	5,088	4,822	5,026	4,914	5,183	59,853
1973	5,364	4,891	5,356	5,262	5,454	5,325	5,307	5,383	5,153	5,358	5,218	5,426	63,496
1974	5,422	4,974	5,265	5,255	5,369	5,218	5,251	5,219	5,056	5,214	4,427	4,067	60,737
1975	4,924	4,750	5,324	5,030	5,052	4,765	4,532	4,427	4,250	4,527	4,365	4,549	56,494
1976	4,551	4,372	5,041	4,884	5,069	4,938	5,007	4,785	4,720	4,857	4,752	4,751	57,728
1977[1]	4,412	4,267	4,696	4,666	4,822	4,686	4,639	4,249	4,069	4,289	4,186	4,077	53,060
1978[1]	3,603	2,741	2,661	3,753	4,398	4,362	4,455	4,379	4,346	4,512	4,383	4,679	49,009
1979[1]	4,448	4,015	4,653	4,389	4,591	4,324	4,386	4,430	4,367	4,460	4,266	4,444	52,900
1980[1]	4,394												

[1] Preliminary. *Source: Bureau of Mines*

U.S. Coke & Its Relationship to the Iron Industry and Coal-Chemical Production

Year	Consumption			Lbs. of Coke Consumed Per Net Ton of Pig Iron & Ferro-Alloys	% Yield of Coke From Coal	Lbs. of Coking Coal Consumed Per Net Ton of P. I. & F. A.	Distribution of Coke to Coal-Chemical Materials Produced								
	Apparent Consumption	In Iron Furnaces	All Other				Blast Furnace Plants	Foundries	Producer & Water Gas Plants	Other Industrial Plants	Light-Oil Deriv. Mil. Gal.	Ammonium Sulfate[2] Mill. Lbs.	Crude Coal Tar	Crude Light Oil	Coke-oven Gas Billion cu. ft.
	1,000 Net Tons						In Millions of Net Tons						Mill. Gal.		
1967	61,572	56,205	5,367	1,288	69.6	1,850	56.9	3.1	—1.7—		N.A.	1,556	780	252	959
1968	62,438	56,238	6,200	1,263	69.8	1,810	57.1	3.3	—2.5—		N.A.	1,536	761	239	923
1969	66,166	60,176	5,990	1,260	69.4	1,816	61.3	3.5	—3.0—		136	1,464	769	259	962
1970	63,207	58,151	5,056	1,267	69.0	1,833	61.2	3.3	—2.3—		120	1,382	761	244	993
1971	56,689	51,498	5,191	1,261	69.0	1,827	54.0	3.3	—1.6—		95	1,154	679	202	862
1972	60,046	54,607	5,439	1,222	69.0	1,768	56.0	3.4	—1.6—		104	1,208	747	214	916
1973	65,765	60,720	5,045	1,200	68.4	1,754	61.2	3.7	—1.4—		114	1,250	732	226	995
1974	64,092	58,441	5,651	1,219	68.4	1,783	57.2	3.4	—1.2—		95	1,200	677	217	967
1975	53,687	48,817	4,870	1,222	68.4	1,786	49.6	2.6	— .9—			1,022	646	195	895
1976	56,834	51,561	5,273	1,187	68.9	1,723	52.5	3.0	—1.2—			1,044	636	198	
1977[1]	54,144	48,510	5,634	1,193	68.9	1,721	48.8	3.3	—1.5—				592	178	
1978[1]	56,372						48.1	2.6	—1.1—				540	162	
1979[1]							48.0	2.5	—1.4—				590	174	

[1] Preliminary. [2] Or equivalent. *Source: Bureau of Mines*

Average Price[1] of Oven Foundry Coke F.O.B. at Birmingham, Ala. In Dollars Per Net Ton

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35
1968	33.35	33.35	33.35	34.85	34.85	34.85	34.85	34.85	34.85	34.85	34.85	34.85	34.56
1969	35.85	35.85	35.85	35.85	35.85	35.85	35.85	35.85	35.85	37.85	37.85	37.85	36.35
1970	37.85	37.85	37.85	41.85	41.85	41.85	41.85	41.85	41.85	48.60	48.60	48.60	42.54
1971	48.60	48.60	48.60	48.60	48.60	50.10	50.10	50.10	50.10	50.10	50.10	50.10	49.48
1972	50.10	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.35	52.16
1973	54.90	54.90	54.90	56.80	56.80	56.80	56.80	56.80	56.80	56.80	56.80	56.80	56.33
1974	59.95	59.95	63.75	73.50	80.50	80.50	80.50	91.00	95.50	100.50	100.50	100.50	82.22
1975	108.00	108.00	108.00	110.50	110.50	110.50	110.50	110.50	110.50	110.50	110.50	110.50	109.88
1976	117.00	117.00	117.00	117.00	117.00	117.00	117.00	117.00	117.00	117.00	117.00	117.00	117.00
1977	123.00	123.00	123.00	123.00	129.00	129.00	129.00	129.00	129.00	129.00	129.00	129.00	127.00
1978	134.00	134.00	134.00	134.00	139.75	139.75	139.75	139.75	139.75	139.75	139.75	139.75	137.83
1979	144.75	144.75	144.75	N.A.	N.A.	N.A.	N.A.	144.75	144.75	146.65	146.65	146.65	145.46
1980	146.65	146.65											

[1] Merchant plants. *Source: Bureau of Labor Statistics* (0521-0102.01)

Coke (Oven-Coke) Stocks at Plants In Thousands of Short Tons

Year	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	3,078	3,249	3,388	3,527	3,732	3,963	4,350	4,766	5,016	5,277	5,439	5,499
1968	5,467	5,375	5,226	5,016	4,740	4,525	4,336	4,312	4,738	5,393	5,759	5,929
1969	5,985	5,865	5,565	5,019	4,507	4,162	3,896	3,787	3,816	3,699	3,430	3,320
1970	3,120	3,032	3,034	3,088	3,100	3,098	2,954	3,006	2,963	3,057	3,433	3,777
1971	4,113	4,241	4,054	3,842	3,599	3,343	3,153	3,401	3,818	4,070	4,143	3,596
1972	3,510	3,585	3,611	3,323	3,111	3,022	2,907	3,089	3,185	3,202	3,089	3,011
1973	2,941	2,824	2,560	2,291	2,035	1,796	1,712	1,514	1,520	1,501	1,435	1,313
1974	1,184	1,125	1,139	1,163	1,183	1,238	1,243	1,146	1,197	1,321	1,298	1,064
1975	935	1,054	1,262	1,442	1,733	2,261	2,889	3,522	3,867	3,821	4,108	4,522
1976	4,996	5,092	4,994	5,105	5,062	4,992	4,729	4,641	4,445	4,750	5,179	5,799
1977	6,487	6,950	7,231	7,283	7,038	6,736	6,468	6,516	6,281	6,192	6,554	6,526
1978[1]	6,444	5,937	5,209	3,461	3,189	2,993	2,938	2,846	2,954	3,008	3,128	3,277
1979[1]	3,534	3,479	3,440	3,259	3,405	3,406	3,168	3,223	3,304	3,715	4,208	4,608
1980[1]	5,163	5,531										

[1] Preliminary. *Source: Bureau of Mines*

Copper

World mine production of copper in 1979 dipped slightly from the 1978 level, according to preliminary U.S. Bureau of Mines data. Labor strikes adversely affected Canadian copper production in the first half of the year, and production was curtailed in central Africa because of existing economic and political conditions. The Sar Cheshmah mine in Iran, which began production early in the year, was closed because of political turmoil.

On the other hand, U.S. mine output of recoverable copper in 1979 was about 6 percent above 1978 levels as a number of domestic mines were reopened during the latter part of the year, stimulated by rising copper prices. Secondary production (copper contained in products made from purchased scrap) in 1979 was about 17 percent larger than in the previous year. However, imports of refined copper in 1979 dropped more than 48 percent from the 1978 level, with Chile and Canada the top suppliers.

Preliminary U.S. Bureau of Mines data indicated that the growth in world copper demand continued into 1979, but toward the latter part of the year, fears of an economic slowdown appeared to dampen demand. U.S. apparent consumption of primary refined copper in 1979 was about 5 percent less than in 1978, although total actual consumption of refined copper was about 1.3 percent larger than in 1978.

World copper stocks, particularly metal exchange stocks, continued to be drawn down in 1979, and at the end of the year were believed to be near minimum levels required for efficient trading operations. U.S. stocks of refined copper at producers' plants on December 31, 1979, of 63,900 tonnes were sharply below the 152,900 tonnes on hand a year earlier, while blister stocks of 275,000 tonnes compared with 263,000 a year earlier, and copper-base scrap stocks of 129,473 tonnes were slightly above the 124,149 tonnes on hand at the end of 1978. London Metal Exchange (LME) stocks of refined copper dropped from slightly more than 400,000 tons at the start of 1979 to about 138,000 at the end of the year and Commodity Exchange, Inc. (Comex), stocks declined from about 179,000 tons to around 109,000 tons.

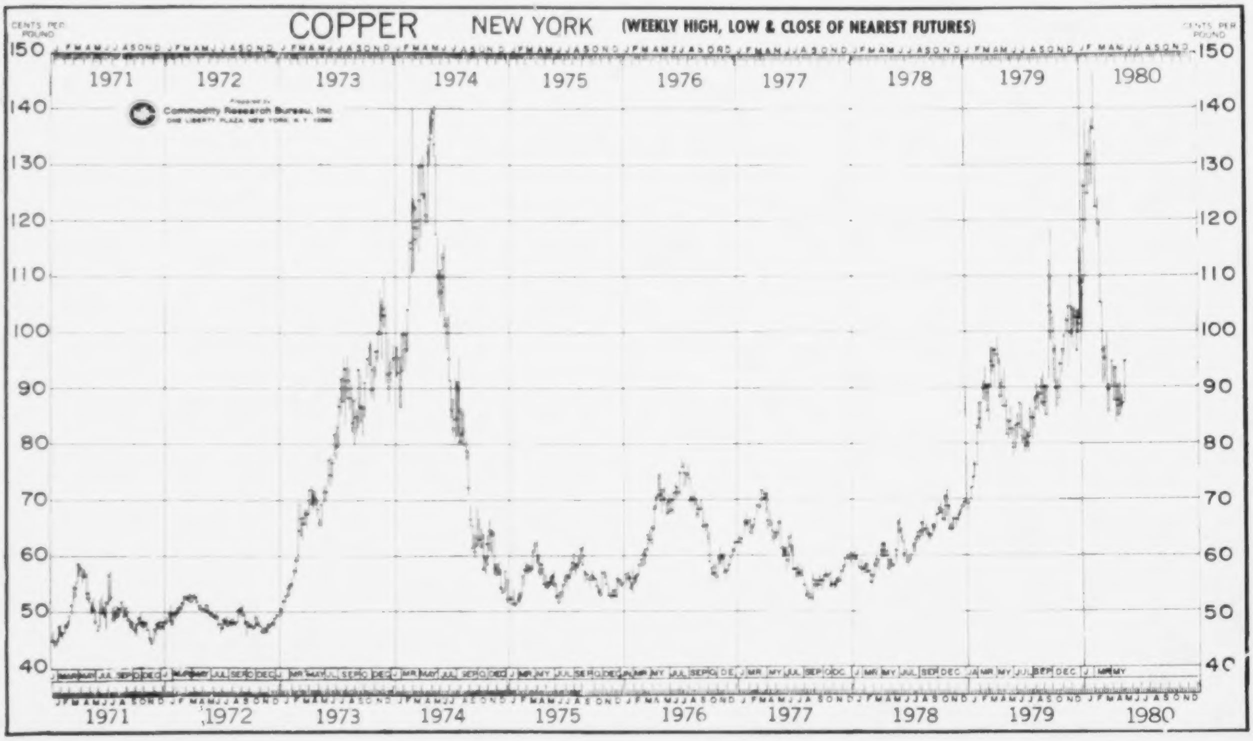
The U.S. producer price for refined copper increased from 77 cents per pound in January 1979 to 106 cents in December and then advanced to a record high of 130 to 131 cents per pound for most producers by the end of January 1980. The average U.S. producer price for copper in 1979 was about 93 cents per pound, compared with 67 cents in 1978.

The use of copper (primary and old scrap) is estimated to be 58 percent, electrical; 18 percent, construction; 9 percent, industrial machinery; 9 percent, transportation; and 6 percent, other uses. Copper is considered vulnerable to substitution, including: aluminum, for electrical purposes; steel, for shell casings; and plastics, for plumbing.

In late April 1980, the Federal Emergency Management Agency released new stockpile goals, including copper, for which the goal was reduced from 1.3 million tons to 1.0 million tons of refined copper, with only 20,000 tons in inventory.

Futures Markets

Copper futures are traded on the Commodity Exchange, Inc., in New York, and on the London Metal Exchange (see feature study on the LME).



World Mine Production of Copper (Content of Ore) In Thousands of Short Tons

Year	Australia	Canada[3]	Chile	Finland	Japan	Mexico	Peru	Zambia	Poland	Zaire	Rep. of So. Africa	Philippines	United States[3]	U.S.S.R.[4] [2]	World Total[1]
1967	102.7	613.3	731.8	32.2	130.9	61.7	212.4	729.8		351.5	165.4	94.2	954		5,552
1968	120.4	633.3	734.9	33.1	132.2	67.4	234.3	732.9		357.7	141.4	121.6	1,205		5,641
1969	144.5	573.2	770.6	36.5	133.5	72.9	219.1	824.7		393.4	139.1	144.9	1,545		6,224
1970	173.9	672.7	783.4	34.2	131.7	67.3	242.8	754.1		425.1	164.5	176.7	1,720		6,638
1971	195.4	721.4	790.7	31.3	133.4	69.6	228.6	718.0		447.3	173.6	217.8	1,522	680	6,689
1972	205.9	793.3	800.0	32.1	123.6	86.8	248.0	791.1		472.0	178.5	235.6	1,665	733	7,329
1973	242.8	908.2	810.6	41.2	124.0	88.7	223.4	778.9	170.9	538.6	193.8	243.8	1,718	772	7,845
1974	277.1	905.4	994.4	39.9	90.5	91.1	233.2	769.4	218.3	550.5	197.4	249.1	1,597	816	8,063
1975	241.4	808.9	913.0	42.8	93.7	86.2	197.3	746.2	260.0	547.1	197.2	249.4	1,413	843	7,679
1976[2]	239.7	823.6	1,108	42.1	89.6	98.1	221.3	781.4	300.0	490.1	217.0	255.2	1,606	880	8,213
1977[1]	242	861	1,164				386	725	295	531	230	296	1,504	910	8,473
1978[1]	220	658	1,036				366	643	290	423	209	239	1,358	865	7,489
1979[1]	260	620	1,040				370	590	300	380	190	270	1,430	840	7,380
1980															

[1] Estimate. [2] Preliminary. [3] Recoverable. [4] Smelter Production. *Source: Bureau of Mines*

World Refined Consumption of Copper[2] In Thousands of Metric Tons

Year	Australia	Belgium	Brazil	Canada	France	W. Germany	Italy	Japan	Spain	Sweden	Un. Kingdom	United States	U.S.S.R.	World Total
1970	106.1	145.0	69.2	229.0	330.7	697.5	274.0	820.6	108.2	86.9	553.7	1,854	985.0	7,284
1971	117.3	147.0	95.3	220.4	343.6	630.5	270.0	805.7	106.7	91.4	517.3	1,834	985.0	7,332
1972	112.8	153.0	110.6	223.8	390.2	672.1	283.0	951.3	119.4	96.9	534.6	2,030	1,030	7,948
1973	135.3	164.4	125.3	231.0	407.8	727.2	295.0	1,202	139.8	114.0	541.2	2,221	1,100	8,754
1974	123.9	178.2	162.0	248.0	414.2	731.0	308.0	880.9	143.9	108.2	496.9	1,995	1,100	8,304
1975	103.7	177.4	155.2	185.2	364.5	634.6	290.0	827.4	119.4	94.4	450.5	1,396	1.220	7,460
1976	113.6	228.1	179.3	206.2	367.1	744.6	322.0	1,050	130.5	87.5	457.6	1,783	1.250	8,509
1977[1]	113.0	239.8	170.0	218.0	378.1	742.0	237.5	1,125	130.0	92.2	507.8	1,677	937.5	6,741
1978														

[1] Preliminary. [2] World consumption of unwrought refined copper.
Sources: World Bureau of Metal Statistics; Metallgesellschaft, W. Germany

U.S. Salient Statistics of Copper In Thousands of Metric[9] Tons

	New Copper Produced										Stocks—Dec. 31			Appar. Consumption[6]	
	From Domestic Ores			From Foreign Ores[2]	Total New	Secondary Recovered[7]	Imports[3]		Exports		At Producers	Refined	Blister & Materials in Solution		
Year	Mines	Smelters	Refineries				Total	Refined	Metallic[4]	Refined[5]				Primary Refined	Primary & Old Copper[8]
1967	954	841	847	286	1,133	483	649	331	221	159	247	27	220	1,320	1,803
1968	1,205	1,235	1,161	276	1,437	521	710	400	314	241	320	48	272	1,576	2,097
1969	1,545	1,547	1,469	274	1,743	575	414	131	241	200	330	39	291	1,683	2,258
1970	1,720	1,605	1,521	244	1,765	504	392	132	274	221	470	130	340	1,585	2,089
1971	1,522	1,471	1,411	181	1,592	445	359	164	263	188	378	75	303	1,623	2,068
1972	1,665	1,649	1,680	193	1,873	458	416	192	242	183	338	57	281	1,901	2,359
1973	1,718	1,705	1,698	170	1,868	486	421	203	293	189	302	37	265	1,902	2,388
1974	1,597	1,532	1,421	234	1,655	483	609	314	246	127	425	101	324	1,778	2,261
1975	1,413	1,374	1,286	157	1,443	369	324	147	305	172	519	207	312	1,312	1,681
1976	1,606	1,461	1,423	117	1,539	419	535	382	218	112	511	190	321	1,826	2,245
1977[9]	1,364	1,302	1,280	77	1,357	350	396	355	91	47	212	212	314	1,625	1,982
1978[1]	1,358	1,288	1,327	122	1,449	420	546	415	187	92	153	153	263	1,831	2,189
1979[1]	1,441	1,336	1,412	104	1,516	500	328	215	231	74	75	64	275	1,744	2,219
1980															

[1] Preliminary. [2] Also from matte, etc., refinery reports. [3] Data are "general" imports; that is, they include copper imported for immediate consumption plus material entering country under bond. [4] Total exports of copper, exclusive of ore, concentrates, composition metal & unrefined copper. Exclusive also of "other manufacturers of copper." [5] Ingots, bars, etc. [6] Withdrawals from total supply on domestic account. [7] From old scrap only. [8] Old scrap only. [9] Data prior to 1977 are in THOUSANDS OF SHORT TONS. *Source: Bureau of Mines*

COPPER

Consumption of Refined Copper[2] in the United States In Thousands of Metric[4] Tons

	By-Products						By Class of Consumer						
Year	Cathodes	Wire Bars	Ingot & Ingot Bars	Cakes & Slabs	Billets	Other	Wire Mills	Brass Mills	Chemical Plants	Secondary Smelters	Foundries	Miscellaneous	Total Consumption
1967	166.8	1,254.6	149.1	153.1	202.0	9.8	1,240.2	650.4	2.4	9.0	33.6		1,935.6
1968	164.5	1,191.7	169.6	122.4	221.6	10.5	1,189.3	652.5	1.6	6.4	30.6		1,880.3
1969	241.1	1,270.8	179.8	172.5	258.4	19.6	1,296.3	797.1	3.1	7.0	38.7		2,142.2
1970	247.0	1,275.8	145.7	157.1	202.0	15.7	1,338.7	660.6	2.2	7.0	34.7		2,043.3
1971	309.4	1,236.9	118.3	154.8	182.3	17.7	1,324.9	655.8	1.5	6.9	30.4		2,019.5
1972	425.3	1,331.9	141.4	160.5	161.4	18.2	1,526.3	667.2	.9	10.0	34.5		2,238.9
1973	531.2	1,356.0	147.8	193.4	174.7	33.9	1,672.3	714.4	N.A.	10.6	N.A.		2,437.0
1974	579.7	1,136.7	143.1	178.0	138.6	18.1	1,474.3	670.2	.7	9.2	19.4	20.4	2,194.2
1975	527.9	722.8	72.5	97.7	75.7	4.1	1,061.3	439.0	.5	4.5	14.0	15.3	1,534.5
1976	846.0	768.0	93.5	123.8	84.0	8.6	1,346.0	574.9	.5	3.1	15.4	19.7	1,991.9
1977[1]	965.5	861.3	90.2	115.0	103.3	11.2	1,511.2	628.6	N.A.	6.6	N.A.	N.A.	2,185.0
1978[4]	1,007.5	795.6	95.2	117.7	113.9	7.3	1,514.5	619.3	N.A.	3.5	N.A.	N.A.	2,169.9
1979[3]	1,087.5	769.3	75.5	102.2	129.5	13.8	1,502.7	672.2	N.A.	2.9	N.A.	N.A.	2,218.7
1980													

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[1] Preliminary. [2] Primary and secondary. [3] Estimate 40,900 tons included in total. [4] Data prior to 1978 are in THOUSANDS OF SHORT TONS. *Source: Bureau of Mines*

United States Exports of Refined Copper[1] to Selected Countries In Thousands of Metric[3] Tons

Year	Total U.S. Exports	United Kingdom	China Mainland	Belgium	Brazil	Canada	France	W. Germany	India	Italy	Netherlands	Taiwan	Sweden	Switzerland	Japan
1967	159.4	26.6	—	2.8	6.9	4.8	18.8	19.5	6.4	27.2	3.3	—	1.1	1.3	29.2
1968	240.7	37.8	—	7.3	31.4	5.7	30.4	29.5	15.2	39.0	9.3	—	3.9	2.3	18.8
1969	200.3	26.8	—	2.3	18.3	23.4	18.8	27.0	13.2	40.7	8.6	—	4.9	2.5	15.7
1970	221.2	25.2	—	4.3	24.7	13.0	18.6	20.1	14.7	39.1	20.5	1.1	2.0	2.4	9.3
1971	187.7	13.2	—	4.8	18.9	15.4	21.9	43.0	14.7	24.3	7.1	4.9	2.5	1.8	10.5
1972	182.7	12.1	—	3.3	16.1	18.3	25.4	28.5	.3	28.5	3.4	4.7	2.5	1.6	32.7
1973	189.4	11.7	—	4.7	21.9	12.8	23.3	17.6	—	31.5	2.9	5.8	1.2	.6	46.3
1974	126.5	14.5	—	2.5	24.0	11.4	19.1	11.7	.1	26.5	4.4	1.1	1.4	.4	4.0
1975	172.4	15.1	—	13.2	24.7	6.7	22.8	34.1	.1	22.2	14.9	4.0	1.0	.6	3.0
1976	111.9	20.3	—	1.0	2.8	4.7	21.0	26.8	—	15.6	5.0	—	5.0	.4	4.7
1977[2]	51.5	7.3	—	3.2	.1	8.1	9.8	10.2	—	6.2	2.4	—	1.5	.2	1.5
1978[3]	91.9	13.8	3.0	2.5	3.3	5.1	7.0	18.1	—	19.0	3.0	.9	4.2	.3	10.0
1979[2]	73.7	6.5	3.1	2.5	6.2	4.5	12.5	3.5	—	11.4	6.6	1.2	2.8	—	2.0
1980															

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[1] Bars, ingots or other forms. [2] Preliminary. [3] Data prior to 1978 are in THOUSANDS OF SHORT TONS.
Source: Department of Commerce

U.S. Mine Production of Recoverable Copper, by Selected States In Thousands of Metric[2] Tons

Year	Arizona	California	Colorado	Idaho	Michigan	Missouri	Montana	Nevada	New Mexico	Pennsylvania	Tennessee	Utah	Maine	Other States	Grand Total
1967	501.7	.9	4.0	4.2	58.5	3.2	65.5	50.8	75.0	4.4	14.6	168.6	—	—	954.1
1968	628.0	1.2	3.5	3.5	74.8	5.5	69.5	77.2	90.8	4.9	14.2	228.2	.1	2.5	1,204.6
1969	801.4	1.1	3.6	3.3	75.2	12.7	103.3	104.9	120.0	3.4	15.4	297.7	1.3	2.3	1,544.6
1970	917.9	2.3	3.7	3.6	67.5	12.1	120.4	106.7	166.3	2.5	15.5	295.7	2.7	2.5	1,719.7
1971	820.2	.5	3.9	3.8	56.0	8.4	88.6	96.9	157.4	3.3	13.9	263.5	2.5	3.2	1,522.2
1972	908.6	.6	3.9	2.9	67.3	11.5	123.1	101.1	168.0	2.6	11.3	259.5	1.2	3.1	1,664.8
1973	927.3	.4	3.1	3.6	72.2	10.3	132.5	93.7	204.7	1.8	8.5	256.6	1.1	2.1	1,717.9
1974	858.8	.2	3.0	2.8	67.0	12.7	131.1	84.1	196.6	—	6.3	230.6	1.5	2.3	1,597.0
1975	813.2	.3	3.6	3.2	73.7	14.3	88.0	81.2	146.3	—	10.0	177.2	2.0	.5	1,413.4
1976	1,024.4	.4	2.4	3.4	43.7	11.1	91.1	58.2	172.4	—	11.1	185.5	1.8	.3	1,605.6
1977	923.8	.2	1.9	4.1	42.4	11.7	86.2	67.1	164.7	—	6.2	194.1	1.3	.3	1,504.0
1978[2]	891.4	.2	1.2	3.9	34.8	10.8	67.3	20.5	127.8	—	11.3	186.3	1.0	.3	1,357.6
1979[1]	945.9		.4	3.6		13.5	69.9		166.5		10.8	189.8			1,441.3
1980															

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[1] Preliminary. [2] Data prior to 1978 are in THOUSANDS OF SHORT TONS. *Source: Bureau of Mines*

Producers' Prices of Electrolytic (Wirebar[1]) Copper, Delivered U.S. Destinations In Cents Per Pound

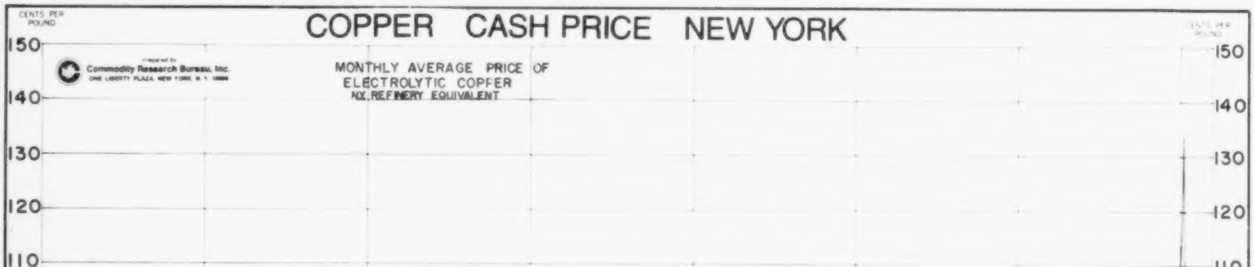
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	43.03	44.12	44.12	44.12	45.50	46.12	48.03	51.55	52.12	52.12	52.12	52.12	47.43
1970	55.92	56.12	56.12	59.74	60.12	60.12	60.12	60.12	60.12	59.03	56.12	53.12	58.07
1971	51.48	50.37	50.59	52.87	52.87	52.87	52.87	52.87	52.87	52.87	52.19	50.37	52.09
1972	50.38	50.66	52.63	52.63	52.63	52.63	52.67	50.63	50.63	50.63	50.63	50.63	51.44
1973[1]	52.41	54.55	59.85	60.13	60.13	60.13	60.13	60.13	60.13	60.13	60.13	66.56	59.53
1974	68.70	68.70	68.70	68.70	81.19	86.09	86.31	86.31	83.01	78.23	75.79	73.03	77.06
1975	68.86	64.32	64.32	64.32	64.32	63.67	63.02	64.31	64.31	64.31	64.31	64.31	64.53
1976	63.63	63.63	64.73	69.26	70.63	70.63	74.63	74.63	74.63	72.34	70.63	66.10	69.62
1977	66.13	68.63	72.54	74.41	72.77	70.13	68.10	63.89	60.63	60.63	60.63	62.11	66.72
1978	63.63	63.59	62.35	64.63	64.90	66.78	63.99	67.34	67.63	70.13	71.68	71.73	66.53
1979	76.15	89.41	96.65	93.83	90.90	87.66	86.02	89.94	95.07	98.84	99.44	106.08	92.75
1980	118.05	133.83	106.23	94.61									

[1] Prior to Feb. 1973 prices are for delivered F.O.B. Cars. *Source: American Metal Market*

Commodity Exchange Inc. (COMEX) Warehouse Stocks of Copper In Thousands of Short Tons

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1974	5.9	3.0	1.0	7.2	5.9	10.3	7.7	10.5	10.3	14.1	16.6	34.3
1975	43.2	53.6	59.0	60.8	68.3	70.6	67.6	73.4	74.8	77.7	89.7	95.9
1976	100.1	100.1	100.9	95.9	94.7	98.6	114.1	128.2	144.0	164.2	175.8	186.5
1977	201.0	204.1	211.1	214.0	214.4	211.4	211.1	205.1	201.0	200.1	195.1	189.1
1978	184.4	181.8	182.8	178.5	175.6	175.4	177.8	180.7	181.9	180.4	179.9	185.1
1979	179.2	170.8	156.4	133.6	118.3	89.9	70.7	61.5	56.8	57.0	64.9	71.3
1980	107.9	114.1	132.0	145.7	149.8							

Source: Commodity Exchange, Inc.-N.Y. (COMEX)



COPPER

U.S. Imports (General) of Copper (Unmanufactured), by Sources and Types In Thousands of Metric[2] Tons

Year	Ore & Concentrates	Blister	Refined	Scrap	Australia	Canada	Mexico	W. Germany	Chile	Peru	Philippines	Yugoslavia	Zambia	Rep. of So. Afr.	Total U.S. Imports
1967	32.9	269.3	330.6	16.4	3.0	162.8	4.5	33.5	173.1	118.6	16.1	—		42.1	649.3
1968	27.1	270.7	400.3	11.4	5.0	150.5	7.3	55.3	180.5	112.2	14.5	—		42.9	710.0
1969	38.7	237.9	131.2	5.7	7.8	97.5	5.1	2.6	122.3	121.4	18.3	1.7		25.2	413.9
1970	32.7	224.4	132.1	2.1	3.0	96.8	4.4	—	114.9	110.0	18.7	—		28.9	392.5
1971	30.8	156.7	164.0	7.5	1.6	135.4	7.6	4.5	51.7	102.4	13.6	4.3	6.7	21.2	359.5
1972	53.7	157.4	192.4	10.8	2.5	150.8	18.6	—	60.1	93.2	30.1	26.6	—	23.6	415.6
1973	42.1	154.1	201.5	18.9	2.0	155.2	16.7	8.8	58.8	100.0	17.8	1.3	5.5	26.4	420.5
1974	53.4	207.8	313.6	31.2	2.7	151.3	16.8	8.7	131.9	108.9	14.3	15.1	2.8	38.4	608.6
1975	64.9	89.0	146.8	14.4	3.5	117.5	16.4	—	55.0	43.9	12.6	21.5	—	26.0	324.1
1976	70.7	44.5	381.5	19.7	7.0	148.0	9.1	—	102.0	40.1	15.0	45.6	128.3	4.9	534.7
1977	42.1	46.2	390.8	19.9	3.6	131.2	15.1	10.5	119.7	62.3	18.1	16.8	77.9	11.0	516.7
1978[2]	20.9	78.7	414.7	21.4	11.1	85.3	6.4	9.4	193.8	104.5	13.2	12.0	87.9	17.1	546.4
1979[1]	22.4	68.1	215.2	22.2											328.3

Note: Includes refined; black, blister, and converter; scrap; and copper content of ore, matte, and regulus. [1] Preliminary. [2] Data prior to 1978 are in THOUSANDS OF SHORT TONS. *Source: Department of Commerce; Bureau of Mines*

Exports of Refined Copper from the United States In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	15.7	16.0	24.9	21.5	16.0	28.7	18.3	4.3	4.9	4.2	2.9	2.0	159.4
1968	2.5	1.1	2.2	5.4	19.8	30.4	31.1	31.8	39.9	25.4	28.1	23.0	240.7
1969	13.0	14.6	24.0	19.0	15.7	17.0	16.3	18.5	17.9	15.6	13.7	14.9	200.3
1970	18.6	20.0	18.8	24.0	26.2	17.1	15.0	17.5	13.6	17.4	15.6	18.2	222.0
1971	22.9	18.7	26.3	23.7	23.9	17.5	4.6	5.4	10.4	4.1	9.4	20.8	187.7
1972	10.5	26.6	22.8	20.2	14.4	12.9	11.0	12.3	12.8	13.7	10.7	14.7	182.7
1973	15.9	15.6	12.8	17.7	13.5	18.3	19.7	18.4	16.2	15.9	13.6	11.9	189.4
1974	8.2	13.1	9.5	10.0	19.8	12.4	6.9	7.0	6.9	8.2	13.3	11.3	126.5
1975	19.7	20.8	14.3	24.9	21.3	13.5	9.8	6.7	11.5	12.5	9.0	8.4	172.4
1976	11.2	8.5	10.8	10.9	8.6	9.4	8.7	9.4	10.0	11.5	7.3	6.8	113.1
1977	3.7	1.8	3.6	5.2	5.2	5.2	5.5	1.6	4.4	4.4	5.0	6.9	52.7
1978	4.7	4.9	11.9	7.3	11.4	10.1	7.2	10.2	22.2	5.3	5.3	8.8	109.3
1979	9.8	9.4	11.6	10.0	8.9	8.7	4.8	2.9	2.9	2.7	7.3	1.5	80.5
1980	1.0	1.4											

Source: Department of Commerce

Dealers' Buying Price of No. 2 Heavy Copper Scrap at N.Y. In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	38.50	37.78	33.26	28.85	28.56	30.50	29.50	30.22	31.35	33.41	36.85	39.00	33.15
1968	39.50	39.76	39.98	33.31	28.36	28.53	29.16	28.61	29.48	30.70	30.58	35.11	32.76
1969	37.69	39.34	39.78	43.95	42.12	42.79	41.09	44.17	44.88	44.00	44.88	49.81	42.88
1970	46.69	46.72	49.69	52.27	47.68	41.00	38.02	35.93	33.38	30.61	26.75	24.68	39.45
1971	23.45	24.55	28.20	32.02	28.60	27.14	27.60	27.00	26.86	28.34	28.95	28.14	27.57
1972	30.71	32.35	35.17	35.00	34.09	31.50	30.00	30.17	29.85	29.55	29.00	29.20	31.38
1973	31.84	35.68	42.93	44.21	44.50	46.50	46.50	62.07	56.82	61.77	68.26	66.50	49.80
1974	60.50	66.39	72.79	75.91	73.66	60.60	51.40	49.20	41.30	38.67	35.12	33.07	54.88
1975	31.86	30.50	33.93	33.82	31.07	29.50	32.50	36.69	38.07	37.33	36.20	35.86	33.94
1976	36.98	37.92	39.76	41.95	44.10	43.66	46.93	45.73	43.71	38.48	35.00	34.10	40.69
1977	34.00	35.73	41.50	40.63	39.62	35.91	35.00	34.04	33.00	33.00	33.00	33.00	34.23
1978	34.00	35.61	35.59	39.73	39.18	41.77	40.50	41.89	42.50	44.70	45.40	44.75	40.47
1979	47.07	58.82	65.46	68.93	63.14	59.05	57.79	58.85	62.03	62.89	62.25	65.00	60.94
1980	74.91	82.35	70.30	60.18									

Source: American Metal Market

Refined Copper Production Outside the U.S.A. In Thousands of Short Tons (Recoverable Copper Content)

Year	Refined													Crude	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Primary	Secondary
1967	153.0	157.7	175.6	179.5	192.5	211.2	201.3	201.8	228.2	223.5	209.8	223.4	2,357	2,632	69.8
1968	199.3	201.6	210.1	190.1	207.9	209.4	209.4	214.9	207.7	208.2	212.9	205.6	2,477	2,817	63.7
1969	222.6	200.6	219.8	216.6	234.7	229.7	217.7	215.2	212.4	209.3	224.1	238.3	2,641	3,023	76.4
1970	198.0	205.2	217.6	220.0	233.0	254.1	211.0	224.0	234.4	229.4	235.7	232.6	2,695	3,004	85.6
1971	209.2	192.7	224.7	222.4	227.1	222.3	229.9	205.1	220.1	229.9	243.9	240.5	2,668	2,948	82.3
1972	203.4	228.3	231.2	229.5	242.2	257.1	239.2	233.8	238.8	252.2	239.7	257.0	2,853	3,074	69.5
1973	220.8	205.1	260.3	238.0	241.7	236.3	254.1	261.5	234.2	275.6	251.0	265.1	2,918	3,185	89.9
1974[2]	339.3	310.0	351.5	340.0	365.6	347.4	376.2	368.5	367.6	381.4	351.5	344.5	4,244	—4,818—	
1975	323.3	299.5	348.1	336.6	330.8	314.7	303.9	305.4	318.2	338.4	311.3	335.6	3,866	—4,449—	
1976	330.3	314.3	335.3	341.0	336.7	355.1	365.3	355.7	371.7	375.2	359.3	359.2	4,199	—4,947—	
1977	358.1	352.1	380.2	363.0	383.5	386.7	361.7	379.7	372.0	367.4	388.5	393.5	4,486	—5,046—	
1978	387.3	344.0	395.9	348.7	401.9	388.1	371.9	348.4	350.0	381.9	364.5	351.5	4,434	—4,868—	
1979[1]	359.8	347.9	360.1	336.9	345.1	364.9	358.1	377.2	366.5	400.9	388.0	382.6	4,388	—4,791—	
1980[1]	384.7	383.1													
1981															

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[1] Preliminary. [2] New series. Not comparable prior to 1974. *Source: American Bureau of Metal Statistics, Inc.*

Refined Copper Production in the U.S.A. In Thousands of Short Tons (Recoverable Copper Content)

Year	Refined													Crude	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Primary	Secondary
1967	165.7	163.0	165.1	145.4	172.8	179.4	108.2	59.1	34.0	39.5	27.4	23.1	1,283	831	146.5
1968	21.8	32.9	46.9	102.7	162.6	157.4	161.0	175.6	181.2	194.5	184.2	186.5	1,607	1,107	156.2
1969	173.3	164.5	178.3	160.3	160.9	155.8	156.0	149.8	160.1	181.7	167.4	177.2	1,985	1,448	198.5
1970	172.1	164.3	178.9	161.7	184.1	154.2	161.8	150.4	152.4	162.6	175.9	185.3	2,004	1,504	180.2
1971	175.6	168.4	182.6	159.5	177.4	164.2	55.4	87.5	132.7	151.2	170.0	162.6	1,787	1,315	106.8
1972	159.5	161.0	184.7	168.2	181.1	179.3	143.5	162.6	178.4	174.2	170.8	163.5	2,027	1,517	119.8
1973	168.6	165.5	185.7	165.6	185.5	173.8	154.1	151.3	151.8	173.2	158.6	163.3	1,997	1,526	120.1
1974	157.7	135.5	164.6	163.9	157.3	140.8	101.1	87.2	130.9	177.5	171.1	153.9	1,742	1,334	104.7
1975	146.0	108.8	142.8	136.5	140.8	129.9	124.7	118.2	112.7	133.3	118.3	138.8	1,551	1,239	72.6
1976	130.3	126.6	127.7	141.1	140.8	141.6	144.0	139.0	141.1	158.1	153.3	154.0	1,698	—1,445—	
1977	140.9	140.9	162.3	150.6	166.2	152.4	52.2	46.3	124.4	120.6	137.3	113.0	1,507	—1,386—	
1978	129.0	112.5	143.2	141.0	145.3	135.1	96.1	138.9	144.9	163.4	162.4	133.3	1,645	—1,434—	
1979[1]	135.6	135.8	152.2	149.8	154.6	149.4	132.3	144.9	137.5	148.7	170.0	155.5	1,766	—1,542—	
1980[1]	161.0	149.5	162.3	170.4											
1981															

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[1] Preliminary. *Source: American Bureau of Metal Statistics, Inc.*

Refined Copper Stocks Outside the U.S.A. In Thousands of Short Tons (Recoverable Copper Content)

Year	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	293.2	255.1	270.6	268.4	280.0	288.6	321.0	321.1	324.8	324.4	308.3	279.8
1968	272.2	257.9	265.1	260.3	251.6	267.1	280.5	315.8	320.8	334.2	320.5	327.1
1969	316.1	313.7	285.5	305.5	300.7	311.6	320.1	315.6	323.0	314.4	291.0	237.5
1970	234.7	235.4	245.4	233.9	255.4	259.5	291.5	280.2	284.1	279.0	307.0	305.8
1971	318.6	330.8	327.7	332.7	314.2	313.4	308.9	306.1	314.1	327.6	331.4	342.2
1972	371.8	349.0	358.1	368.2	380.1	378.2	378.8	400.9	422.4	394.2	420.1	421.8
1973	410.3	361.4	322.4	263.0	249.7	250.5	215.8	267.9	274.0	249.4	255.8	261.8
1974[2]	348.7	320.9	323.4	311.5	320.6	332.7	370.3	444.0	459.4	494.4	526.9	543.1
1975	591.2	628.8	624.5	655.8	723.1	766.0	784.7	861.5	933.4	1,007	1,072	1,108
1976	1,135	1,150	1,149	1,086	1,048	1,045	1,040	1,080	1,112	1,102	1,102	1,141
1977	1,117	1,158	1,200	1,166	1,183	1,185	1,195	1,210	1,229	1,247	1,240	1,225
1978	1,201	1,231	1,139	1,139	1,104	1,099	1,052	1,059	1,001	960.2	962.0	963.1
1979[1]	942.2	878.2	862.4	765.1	758.8	756.7	727.2	687.1	696.6	648.2	635.4	641.3
1980[1]	619.5	599.8	561.6									
1981												

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[1] Preliminary. [2] New series. Not comparable prior to 1974. *Source: American Bureau of Metal Statistics, Inc.*

COPPER

Refined Copper Stocks in the U.S.A. In Thousands of Short Tons (Recoverable Copper Content)

Year	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	65.7	64.1	66.5	64.8	47.2	65.1	66.0	70.6	68.9	65.6	65.0	61.0
1968	55.4	61.8	58.4	68.6	53.3	66.2	58.1	53.1	55.2	50.9	44.3	52.5
1969	56.6	69.2	73.9	62.4	47.2	43.8	34.7	41.8	43.6	46.2	57.0	56.2
1970	45.9	52.0	58.2	67.4	58.2	65.2	53.7	57.0	54.9	69.7	80.2	135.6
1971	160.6	173.3	174.5	164.3	131.3	110.4	70.4	59.9	61.0	80.8	100.8	106.7
1972	103.0	131.3	132.8	124.3	123.1	125.1	128.7	123.9	140.9	157.8	161.0	158.2
1973	157.4	142.6	140.4	126.1	97.2	95.0	82.2	72.0	71.5	63.1	55.3	36.5
1974	49.1	49.9	43.8	57.5	66.5	61.1	39.8	42.9	54.8	61.5	89.4	135.7
1975	194.9	242.7	259.2	297.8	320.6	334.6	338.2	349.5	341.8	312.3	314.9	324.6
1976	360.7	363.4	370.9	347.8	343.0	325.2	317.1	350.4	355.8	356.1	372.8	416.5
1977	473.8	469.3	487.0	472.3	442.1	447.6	435.0	408.9	370.6	409.4	418.0	456.9
1978	471.1	488.7	491.6	470.2	480.5	465.5	464.0	430.9	418.0	405.9	416.4	408.9
1979[1]	367.9	318.4	287.5	262.1	237.4	197.8	176.0	174.6	158.0	154.6	148.6	167.3
1980[1]	186.3	203.5	228.2	237.1	269.1							
1981												

[1] Preliminary. *Source: American Bureau of Metal Statistics, Inc.*

Refined Copper Deliveries to Fabricators Outside the U.S.A.
In Thousands of Short Tons (Recoverable Copper Content)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	157.7	149.0	178.7	172.8	185.4	181.1	200.5	191.4	221.3	222.6	225.4	203.5	2,289
1968	192.7	172.9	194.0	173.2	188.1	206.1	187.5	225.0	223.0	241.9	223.1	246.1	2,473
1969	226.6	234.2	221.6	228.0	230.1	225.3	228.9	206.3	246.7	243.4	278.7	254.3	2,824
1970	213.0	202.4	239.8	210.6	244.5	239.1	228.7	232.9	240.2	210.9	239.8	233.2	2,735
1971	220.9	213.4	251.1	266.7	238.8	240.8	230.2	190.9	198.1	224.1	242.9	240.3	2,758
1972	227.9	230.8	236.2	226.0	244.8	249.7	220.5	214.8	268.0	222.8	242.5	266.1	2,850
1973	266.4	249.3	317.7	257.9	243.4	275.8	211.0	268.4	263.5	270.3	255.0	239.7	3,119
1974[2]	342.0	302.7	365.3	328.7	356.9	306.6	291.1	325.5	316.4	339.8	334.8	303.5	3,913
1975	287.7	315.0	330.4	288.8	301.9	304.8	231.1	232.8	250.4	274.3	269.2	303.0	3,389
1976	308.4	309.3	351.0	359.9	336.2	362.0	296.3	331.0	380.7	372.9	315.8	349.3	4,073
1977	331.6	305.6	405.0	342.6	364.9	360.0	326.5	344.9	339.8	350.7	374.0	390.8	4,236
1978	338.5	370.0	422.6	372.1	400.8	426.0	362.4	402.9	382.7	376.8	360.2	376.8	4,591
1979[1]	424.2	395.9	460.4	342.0	349.1	383.3	376.8	357.7	408.5	390.2	377.6	386.4	4,652
1980[1]	385.2	404.3											
1981													

[1] Preliminary. [2] New series. Not comparable prior to 1974. *Source: American Bureau of Metal Statistics, Inc.*

Refined Copper Deliveries to Fabricators in the U.S.A.
In Thousands of Short Tons (Recoverable Copper Content)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	175.2	183.8	198.1	179.7	177.9	197.0	116.3	85.9	57.5	75.4	76.0	72.3	1,595
1968	69.9	97.6	90.5	164.2	161.9	157.3	153.4	159.1	157.4	181.7	159.6	154.2	1,707
1969	159.5	156.7	170.1	170.5	160.0	163.2	144.2	151.5	134.0	163.0	166.0	175.2	1,914
1970	150.7	152.1	161.9	163.3	165.5	155.6	158.0	145.3	149.5	142.5	121.5	150.6	1,817
1971	156.8	151.5	164.7	170.8	190.7	193.1	71.0	97.3	126.1	139.1	157.5	141.7	1,760
1972	134.6	151.6	180.6	164.2	181.4	186.9	148.2	145.8	163.2	180.0	172.2	176.7	1,985
1973	190.6	171.2	207.4	191.9	191.7	187.5	162.3	147.3	163.6	191.5	185.5	165.4	2,155
1974	170.7	161.8	178.4	198.4	204.1	186.4	129.5	109.5	143.1	152.3	118.8	86.1	1,911
1975	99.3	84.3	94.2	95.8	115.0	118.2	110.5	127.0	137.5	131.2	117.2	115.7	1,346
1976	137.9	132.7	206.2	175.5	171.7	158.6	150.6	134.5	151.0	150.6	122.6	137.4	1,829
1977	166.0	138.2	202.0	195.6	185.3	192.4	104.5	100.6	100.5	145.7	135.9	141.0	1,808
1978	137.7	141.3	190.2	148.7	175.9	159.8	133.4	168.9	179.2	170.4	177.7	179.7	1,963
1979[1]	191.1	174.8	193.5	182.4	204.7	192.4	166.4	179.3	157.4	190.4	161.4	156.7	2,151
1980[1]	173.5	153.7	194.0										
1981													

[1] Preliminary. *Source: American Bureau of Metal Statistics, Inc.*

Corn

The 1979 corn crop was a record 7,764 million bushels, 10 percent larger than the previous record 1978 crop. Area harvested was 71 million acres, 1 percent more than in 1978, but the sharp rise in yield accounted for most of the increase in the crop. The average yield was 109.4 bushels per harvested acre, compared with 100.8 bushels in 1978. The previous highest yield was 97.1 bushels in 1972. In both 1978 and 1979, plantings were delayed by cold soils and surplus soil moisture in most of the Corn Belt. But in both years, unusually good growing and harvesting weather was a major factor in raising yields. The carryover of 1,286 million bushels and the 1979 crop made the corn supply 9,051 million bushels for the 1979/80 marketing year, 10 percent more than the previous record supply for the 1978/79 season.

Corn fed to livestock and poultry was expected to total around 4,350 million bushels in 1979/80, an increase of almost 4 percent from 1978/79 feedings. The projected increase was mainly due to an expected 11 to 14 percent increase in pork production and a 3 to 6 percent increase in poultry production in the 1979/80 feeding year. An anticipated 7 percent reduction in cattle on feed was expected to partially offset gains in pork and poultry feeding.

Corn exports were projected at about 2,400 million bushels, compared with record 1978/79 exports of 2,133 million bushels. Before exports of about 13 million tonnes (metric tons) of corn (about 512 million bushels) to the USSR were suspended in early January 1980, U.S. corn exports for 1979/80 were estimated at 2,500 million bushels. The reduction in exports to the USSR has been partially offset by increased prospects for exports elsewhere.

Corn for food, seed, and industrial uses was expected to increase moderately in 1979/80 to about 615 million bushels. With total domestic use and exports at the levels projected, corn disappearance in 1979/80 could total about 7,365 million bushels. This would leave a September 30, 1980, carryover of about 1.7 billion bushels, 32 percent larger than the year before and largest since 1960/61. About half of the carryover was expected to be in the farmer-owned reserve and a moderate amount in Government-owned inventories. Farmer-owned reserve stocks cannot be sold until prices reach at least $2.63 per bushel.

On January 1, there were 586 million bushels of corn in the farmer-owned reserve and 265 million bushels under price-support loan and 100 million bushels in CCC inventory. Loan, reserve, and CCC stocks were equal to about 14 percent of total January 1 stocks, compared with 9 percent of stocks on January 1, 1979. Reserve stocks are isolated from markets until prices reach release levels.

U.S. Government Activities

Of the 80 million acres planted for the 1979 corn crop, 16.8 million acres, about 21 percent, were in compliance with the 1979 feed grain program. Participation was about 42 percent of planted acreage in Nebraska and 20 percent in Iowa, but only 8 percent in Illinois and 9 percent in Indiana. For corn, the set-aside was 1.7 million acres; an additional 1.1 million acres was diverted.

Secretary of Agriculture Bob Bergland announced on October 22, 1979, that there would be no set-aside or diversion requirements for 1980 feed grain crops. The decisions were based on projected supply and demand factors, which point to a tighter supply situation in the future. All producers of corn in 1980 will be eligible for target price protection, loans on their crop, and the farmer-owned reserve.

Suspension of agricultural exports to the Soviet Union, announced on January 4, 1980, limited wheat and feed grain exports from October 1979 to September 1980 to the 8 million tonnes which were agreed upon under the provisions of the 1975 U.S.-USSR Grains Supply Agreement. As a result, approximately 17 million tonnes of grain ordered by the Soviet Union will not be delivered. Approximately 13 million tonnes (about 512 million bushels) of this total was expected to be corn.

To offset any price impacts from the trade suspension, the Administration announced several actions. The actions included an offer to assume contractual obligations on up to 10 million tonnes of corn that had been sold to the Soviet Union, and increases in the farmer-owned reserve release, and call prices; and waiver of first-year interest charges for corn placed in the reserve.

For corn, the loan rate was raised to $2.10 per bushel, while the reserve release and call prices were raised to $2.63 and $3.05 per bushel, respectively. The new lower limit at which the Commodity Credit Corporation can sell stocks while the grain reserve is in operation (150 percent of current loan rates) is $3.15 per bushel for corn.

The call prices for grain entered into the reserve before January 7, 1980, are somewhat lower than the prices for grain which entered after January 7. That call price for corn is $2.94 per bushel. Producers have the option of signing new three-year agreements with the higher call The Administration also waived first-year interest charges for the next 13 million tons of corn. Annual storage payments for corn were increased to 26.5 cents per bushel.

Feedgrain target prices were announced in mid-March, including an increase to $2.35 per bushel for the 1980 corn crop. The 1979 target was $2.20. The legislation under consideration would also give the Secretary the authority to have producers limit plantings to no more than their normal crop acreage as a condition of eligibility for farm program benefits when no set-aside program is in effect.

In order to qualify for full target price protection, farmers cannot plant more corn, sorghum or barley in 1980 than was considered planted and set aside from these crops in 1979. Farmers who exceed this acreage will be subject to an allocation factor that could reduce their eligibility for any target price payment by up to 20 percent.

A national program acreage (NPA) of 82.1 million acres for corn also was announced. The NPA is the number of acres for each crop needed to be planted to meet projected domestic and export requirements as well as provide for an adequate carryover.

Corn futures are traded on the Chicago Board of Trade and on the MidAmerica Commodity Exchange.

CORN

World Production of Corn or Maize In Millions of Metric Tons

Crop Year	United States	Argentina	Brazil	Mexico	South Africa	France	China	India	Italy	Bulgaria	Hungary	Yugoslavia	Romania	Indonesia	U.S.S.R.	World Total
1967–8	123.5	6.6	12.8	8.0	5.2	4.2	25.5	6.3	3.9	2.0	3.5	7.2	6.9	2.4	8.0	253.5
1968–9	113.0	6.9	12.7	8.5	5.0	5.4	23.5	5.7	4.0	1.8	3.8	6.8	7.1	3.1	7.4	243.3
1969–0	119.1	9.4	14.2	6.5	6.2	5.7	24.3	5.7	4.5	2.4	4.8	7.8	7.7	2.3	10.1	260.0
1970–1	105.5	9.9	13.5	8.7	8.6	7.6	26.4	7.5	4.8	2.4	4.0	6.9	6.5	2.9	7.8	255.1
1971–2	143.3	5.9	12.9	9.1	9.4	8.8	25.3	5.1	4.5	2.5	4.7	7.4	7.9	2.6	8.6	292.1
1972–3	141.6	9.0	13.8	8.1	4.2	8.2	22.0	6.2	4.8	2.9	5.5	7.9	9.5	2.0	9.8	286.3
1973–4	143.4	9.9	15.0	9.0	11.1	10.7	28.0	5.8	5.1	2.6	5.9	8.3	7.4	2.9	13.2	314.7
1974–5	118.5	7.7	16.4	7.8	9.1	8.7	30.7	5.6	5.0	1.6	6.2	8.0	7.4	3.0	12.1	286.5
1975–6	147.3	5.9	17.9	9.2	7.3	8.2	32.0	7.0	5.3	3.0	7.1	9.4	9.2	2.6	7.3	321.6
1976–7	157.9	8.8	18.8	9.6	9.6	5.5	31.4	6.3	5.3	3.0	5.2	9.1	11.6	2.6	10.1	336.3
1977–8	161.8	9.5	13.9	9.7	10.1	8.6	34.4	5.9	6.4	2.6	6.0	9.9	10.1	3.0	11.0	345.4
1978–9[1]	179.9	9.0	16.5	10.2	7.9	9.6	53.0	6.2	6.2	2.3	6.7	7.6	10.2	4.0	9.0	383.2
1979–0[2]	192.7	9.4	18.7	9.5	10.0	10.8	54.5	4.5	6.4	3.0	7.0	9.5	12.0	3.0	8.0	405.8
1980–1																

[1] Preliminary. [2] Estimated. *Source: Foreign Agricultural Service, U.S.D.A.*

Acreage and Supply of Corn in the United States In Millions of Bushels

Year Beginning October	All Purposes		Harvested			Yield, Per Harv. Acre Bus	Carry-over, October 1					Production		Imports[2]	Total (All Supply Grain)
	Planted	Harv.	For Grain	For Silage	For Forage		Farm	Term. Mkt.	CCC Bins	Others[3]	Total	For Grain	For All		
	In Millions of Acres														
1967–8	71.2	[5]	60.7	8.4	1.0	80.1	569.2	[5]	97.6	156.5	823	4,860	[5]	1.0	5,687
1968–9	65.1	[5]	56.0	7.9	.8	79.5	781.8	[5]	103.3	277.2	1,162	4,450	[5]	1.0	5,620
1969–0	64.3	[5]	54.6	7.9	.6	85.9	728.2	[5]	143.3	241.9	1,113	4,687	[5]	1.0	5,806
1970–1	66.8	[5]	57.4	8.1	.7	72.4	575.6	[5]	111.3	318.3	1,005	4,152	[5]	4.0	5,161
1971–2	74.1	[5]	64.1	8.8	.7	88.1	426.7	[5]	24.5	215.5	667	5,646	[5]	1.0	6,309
1972–3	67.0	[5]	57.5	8.4	.5	97.0	751.3	[5]	26.3	348.7	1,126	5,580	[5]	1.0	6,700
1973–4	71.9	[5]	62.1	9.0	.6	91.3	404.6	[5]	20.3	283.7	709	5,671	[5]	1.0	6,380
1974–5	77.8	[5]	65.4	10.8	.6	71.9	287.6	[5]	——195.1——		483	4,701	[5]	1.8	5,187
1975–6	78.6	[5]	67.5	9.8	.6	86.3	191.3	[5]	——168.2——		359	5,829	[5]	1.8	6,192
1976–7	84.4	[5]	71.3	11.3	.9	87.9	229.8	[5]	——169.4——		399	6,266	[5]	2.5	6,668
1977–8	83.6	[5]	70.9	9.6	.6	90.7	446.1	[5]	——438.0——		884	6,425	[5]	2.6	7,312
1978–9[1]	80.1	[5]	70.3	8.6	.5	100.8	659.3	[5]	——444.7——		1,104	7,087	[5]	1.2	8,192
1979–0[1]	80.0	[5]	71.0	8.0	.4	109.4	776.3	[5]	—1,104.0——		1,286	7,764	[5]	1.0	9,051
1980–1[4]	82.0														

[1] Preliminary. [2] Includes grain equivalent of cornmeal & flour. [3] Interior mills & elevators and terminal mkts. [4] Estimate. [5] Discontinued, no longer reported. *Source: Commodity Economics Division, U.S.D.A.*

Corn Production Estimates and Disposition and Value in the U.S.

Crop Year	Corn for Grain Production Estimates							Farm Disposition		Season Avg. Price[1] $ Per Bu.	K.C. White No. 3 $ Per Bu.	Value of Production (Million Dollars)
	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Final	Feed & Seed	Sold[2]			
	In Thousands of Bushels							In Millions of Bushels				
1967–8	4,508,525	4,651,648	4,693,917	4,717,422	4,696,000	4,722,164	4,860,372	2,263	2,598	1.03	1.21	5,044
1968–9	4,452,125	4,555,893	4,636,456	4,587,115	4,439,758	4,374,840	4,449,542	2,095	2,355	1.08	1.63	4,826
1969–0	4,286,285	4,309,776	4,312,267	4,350,257	4,444,199	4,577,864	4,687,057	2,130	2,557	1.15	1.75	5,416
1970–7	4,819,999	4,692,864	4,402,765	4,188,281	4,103,973	4,109,792	4,152,243	1,888	2,264	1.33	2.01	5,514
1971–2	———	5,345,057	5,265,641	5,399,670	5,551,769	5,540,253	5,646,260	2,447	3,200	1.08	1.23	6,101
1972–3	5,042,048	4,947,986	5,124,425	5,265,817	5,400,390	5,473,727	5,579,832	2,328	3,252	1.57	2.30	8,743
1973–4	———	5,661,379	5,768,407	5,762,927	5,678,141	5,643,256	5,670,712	2,217	3,453	2.55	3.22	14,663
1974–5	———	4,965,950	4,994,730	4,717,600	4,621,248	4,651,167	4,701,402	1,755	2,947	3.03	4.69	14,232
1975–6	6,045,621	5,849,662	5,687,248	5,737,266	5,803,596	5,766,991	5,828,961	2,117	3,712	2.54	2.92	14,789
1976–7	6,552,665	6,186,979	5,891,823	5,865,243	6,063,459	6,216,032	6,266,359	2,305	3,961	2.15	2.96	13,472
1977–8	6,330,668	6,092,054	6,229,084	6,303,034	6,366,864	6,357,424	6,425,457	2,514	3,911	2.02	3.66	12,944
1978–9[2]	6,145,421	6,503,190	6,797,650	6,823,720	6,890,310	7,081,849	7,086,666	2,639	4,443	2.25		14,889
1979–0[2]	6,662,681	7,108,938	7,268,175	7,390,365	7,585,535	7,763,771				2.35		

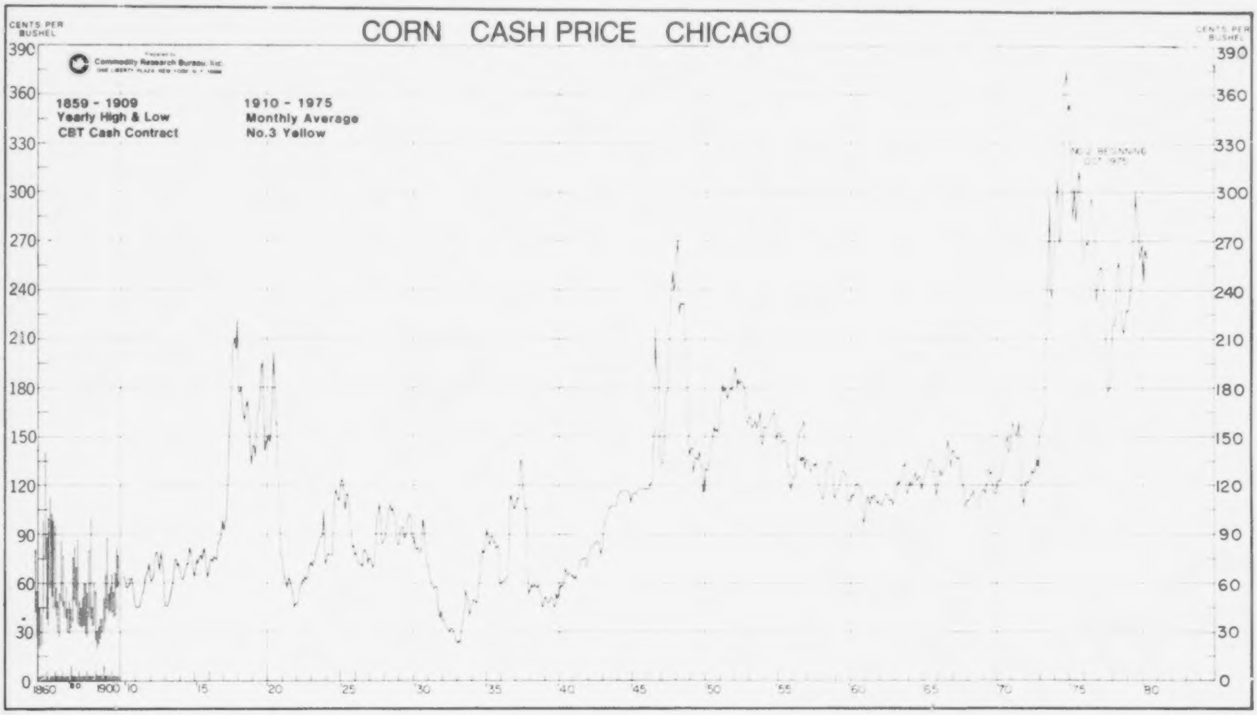
[1] Includes an allowance for unredeemed loan & purchase agreement deliveries valued at the average loan rate. [2] Preliminary. *Source: Economic Research Service; Crop Reporting Board, U.S.D.A.*

U.S. Corn Supply and Disappearance In Millions of Bushels

Year & Periods Begin Oct. 1	Supply				Disappearance							Ending Stocks		
					Domestic Use									
	Beginning Stocks	Production	Imports	Total Supply	Food	Alc. Beverages	Seed	Feed	Total	Exports	Total Disappearance	Gov't. Owned[1]	Privately Owned[2]	Total
1974–5	483.9	4,701	1.8	5,187	366.9	65.7	18.8	3,226	3,677	1,149	4,826	—	361.4	361.4
Oct.–Dec.	483.9	4,701	.4	5,186	91.6	14.8	—	1,167	1,273	271.9	1,546	—	3,641	3,641
Jan.–Mar.	3,641	—	.6	3,642	92.1	15.6	3.8	922.8	1,034	379.3	1,414	—	2,228	2,228
Apr.–May	2,228	—	.4	2,228	63.1	12.0	11.3	458.0	544.4	178.6	722.9	—	1,505	1,505
June–Sept.	1,505	—	.4	1,506	120.0	23.4	3.8	678.3	825.4	318.8	1,144	—	361.4	361.4
1975–6	361.4	5,829	1.8	6,192	398.8	71.1	20.1	3,592	4,082	1,711	5,793	—	399.1	399.1
Oct.–Dec.	361.4	5,829	.6	6,191	100.2	16.3	—	1,154	1,271	453.7	1,724	—	4,467	4,467
Jan.–Mar.	4,467	—	.5	4,467	100.4	15.7	4.0	1,108	1,228	405.9	1,634	—	2,833	2,833
Apr.–May	2,833	—	.1	2,833	66.8	14.2	12.1	553.8	646.9	319.4	966.3	—	1,867	1,867
June–Sept.	1,867	—	.6	1,867	131.4	24.9	4.0	775.6	935.9	532.4	1,468	—	398.1	399.1
1976–7	399.1	6,266	2.5	6,668	419.5	73.9	19.9	3,587	4,100	1,684	5,784	—	884.1	884.1
Oct.–Dec.	399.1	6,266	.6	6,666	98.6	15.4	—	1,165	1,279	498.0	1,777	—	4,890	4,890
Jan.–Mar.	4,890	—	.3	4,890	98.8	18.2	4.0	1,076	1,197	399.5	1,597	—	3,293	3,293
Apr.–May	3,293	—	.5	3,294	74.5	14.8	11.9	545.6	646.7	282.1	928.8	—	2,365	2,365
June–Sept.	2,365	—	1.1	2,366	147.6	25.5	4.0	800.2	977.2	504.5	1,482	—	884.1	884.1
1977–8	884.1	6,426	2.6	7,312	462.5	70.4	18.0	3,710	4,260	1,948	6,208	10.1	1,094	1,104
Oct.–Dec.	884.1	6,426	.7	7,310	107.2	15.7	—	1,266	1,389	418.3	1,807	.2	5,503	5,503
Jan.–Mar.	5,503	—	.9	5,504	108.4	17.0	3.6	1,083	1,212	414.5	1,627	.2	3,877	3,877
Apr.–May	3,877	—	.3	3,878	78.1	13.4	10.8	567.7	670.0	370.2	1,040	.2	2,837	2,837
June–Sept.	2,837	—	.7	2,838	168.8	24.3	3.6	792.5	989.3	744.8	1,734	10.1	1,094	1,104
1978–9[3]	1,104	7,087	1.2	8,192	487.7	69.3	18.0	4,198	4,773	2,133	6,906	95.5	1,190	1,286
Oct.–Dec.	1,104	7,087	.1	8,191	119.7	17.1	—	1,397	1,534	454.0	1,988	61.8	6,141	6,203
Jan.–Mar.	6,203	—	.4	6,203	108.4	16.9	3.6	1,225	1,353	426.3	1,780	92.0	4,331	4,423
Apr.–May	4,423	—	.2	4,424	85.0	13.0	10.8	695.3	804.1	387.2	1,191	95.4	3,137	3,232
June–Sept.	3,232	—	.5	3,233	174.6	22.3	3.6	880.9	1,081	856.6	1,947	95.5	1.190	1,286
1979–0[3]	1,286	7,764	1.0	9,051	512.9	81.6	20.0	4,350	4,965	2,275	7,240			1,811
Oct.–Dec.[3]	1,286	7,764	.3	9,050	124.7	15.9	—	1,474	1,614	662.9	2,277	99.7	6,673	6,773
Jan.–Mar.[3]	6,773	—	.3	6,773	114.4	17.0	3.6	1,276	1.411	582.0	1,993	97.4	4,683	4,780

[1] Uncommitted inventory. [2] Includes quantity under loan & farmer-owned reserve. [3] Preliminary.

Source: Commodity Economics Division, U.S.D.A.



CORN CASH PRICE CHICAGO

CORN

Distribution of Corn in the United States In Millions of Bushels

Year Beg. Oct.	Shipments Wet Corn Milling (Grind)	Corn Meal[4]	Corn Flour Etc.	Hominy Grits (Food)	Breakfast Foods[3]	Distilled Liquors	Fermented Malt Liquors	Total Shipments	Seed	Livestock Feed[5]	Exports (Incl. Grain Equiv. of Pdt's.)	Total Utilization	Domestic Disappearance
1970–1	242	24	8	17	23	24	45	383	17	3,581	517	4,494	3,977
1971–2	246	21	10	14	24	25	45	385	15	3,997	796	5,183	4,387
1972–3	284	20	12	13	24	29	45	427	16	4,304	1,258	5,991	4,733
1973–4	295	19	14	13	25	33	47	446	18	4,205	1,243	5,896	4,653
1974–5	315	18	13	10	24	16	49	445	18	3,226	1,149	4,826	3,677
1975–6	343	18	15	11	24	21	50	482	20	3,592	1,711	5,793	4,082
1976–7	362	17	17	10	25	21	53	505	20	3,587	1,684	5,784	4,100
1977–8	405	17	18	10	25	19	52	546	18	3,710	1,948	6,208	4,260
1978–9[2]	430	18	19	9	26	18	50	570	18	4,198	2,133	6,906	4,773
1979–0[2]									20	4,350	2,275	7,240	4,965

[1] Preliminary. [2] Estimate. [3] Assumes sizeable quantities of corn flour are purchased by breakfast food mfg. from the dry milling industry. [4] Regular & degermed. [5] Feed & waste (residual, mostly feed).
Source: Commodity Economics Division, U.S.D.A.

Corn (Shelled & Ear) Stocks in the United States In Millions of Bushels

Year	On Farms Jan. 1	Apr. 1	June 1[3]	Oct. 1[2]	Off Farms Jan. 1	Apr. 1	June 1[3]	Oct. 1[2]	Total Stocks Jan. 1	Apr. 1	June 1[3]	Oct. 1[2]
1970	3,390	2,263	1,426	576	993	768	520	430	4,383	3,031	1,945	1,005
1971	2,755	1,875	1,179	427	1,013	670	394	240	3,769	2,545	1,572	667
1972	3,551	2,483	1,589	751	1,149	869	584	375	4,700	3,381	2,173	1,126
1973	3,689	2,385	1,373	405	1,141	955	564	304	4,831	3,340	1,937	709
1974	3,357	2,012	1,063	288	1,116	850	381	195	4,473	2,861	1,443	483
1975	2,541	1,509	804	191	1,080	705	346	168	3,621	2,214	1,150	359
1976	3,196	1,920	1,290	233	1,270	913	577	166	4,467	2,833	1,867	399
1977	3,345	2,134	1,578	446	1,544	1,159	787	438	4,890	3,293	2,365	884
1978	3,824	2,517	1,849	659	1,679	1,360	989	445	5,503	3,877	2,837	1,104
1979[1]	4,521	3,101	2,263	776	1,681	1,322	969	509	6,203	4,423	3,232	1,286
1980[1]	4,928	3,364			1,844	1,416			6,773	4,780		

[1] Preliminary. [2] Old crop only. [3] Data prior to 1976 are *as of July 1.* *Source: Crop Reporting Board, U.S.D.A.*

Production of Corn (For Grain) in the United States, by States In Millions of Bushels

Year	Illinois	Indiana	Iowa	Kansas	Kentucky	Michigan	Minn.	Missouri	Nebraska	No. Car.	Ohio	Pa.	South Dakota	Wisconsin	Texas
1970	735.6	374.1	866.6	82.2	47.0	115.7	384.3	173.1	366.9	70.0	240.2	81.3	100.2	152.4	—
1971	1,067	556.4	1,178	124.5	91.1	119.4	475.2	272.1	450.5	89.2	322.6	77.7	120.8	225.8	—
1972	1,015	507.9	1,230	130.0	83.2	142.9	455.6	227.5	534.0	102.4	284.3	64.8	154.5	203.6	—
1973	981.6	534.5	1,207	154.0	85.9	146.5	513.4	228.8	554.6	114.8	243.2	81.1	146.3	173.5	—
1974	811.8	387.6	968.0	131.9	88.2	118.5	365.8	146.3	399.0	117.8	265.5	89.1	76.9	161.2	—
1975	1,254	551.7	1,118	141.0	87.8	167.2	407.4	170.1	503.2	106.5	310.6	88.6	83.3	198.4	—
1976	1,240	693.0	1,174	171.8	138.7	153.9	330.4	173.9	518.5	150.4	393.5	103.5	37.2	151.0	186.0
1977	1,163	633.4	1,092	161.3	132.3	197.2	600.0	201.4	648.5	88.7	380.1	106.7	126.9	291.2	161.7
1978	1,191	637.2	1,461	153.0	119.9	194.4	643.8	191.4	740.2	121.6	379.1	113.1	171.5	269.5	144.0
1979[1]	1,358	664.2	1,626	172.0	132.6	237.5	606.0	228.7	793.5	128.4	417.5	115.4	210.9	306.9	132.3

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

U.S. Exports[2] of Corn (Including Seed), By Country of Destination In Millions of Bushels

Yr. Begin. October	USSR	Belg. & Luxem.	Canada	France	W. Germany	Greece	Israel	Italy	Japan	Mexico	Netherlands	Norway	Spain	United Kingdom	Total All Exports
1973–4	129	5	51	—	122	35	7	85	251	48	137	3	101	38	1,226
1974–5	40	13	37	2	115	20	9	107	206	48	154	3	104	27	1,125
1975–6	414	35	30	8	172	29	11	102	228	39	163	4	86	45	1,699
1976–7	115	80	16	14	209	38	13	90	301	56	182	3	41	111	1,668
1977–8	412	63	9	2	98	41	16	81	338	68	113	2	66	80	1,930
1978–9[1]	388								353						2,115

[1] Preliminary. [2] Exports of grain only. Does not include corn exported under the food for relief or charity program.
Source: Foreign Agricultural Service, U.S.D.A.

Corn Under Price Support through the End of the Month (Cumulative Totals from Current Season's Crop)

In Millions of Bushels

Crop Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1970–1		22.3	91.6	171.9	280.2	297.8	310.3	316.1	318.9	320.8	322.0	—	—	324.0
1971–2		60.2	313.2	585.9	833.9	881.8	907.6	918.9	923.5	937.2	950.4	—	—	952.0
1972–3		20.7	100.4	245.3	360.2	395.5	438.0	417.8	419.3	419.8	—	—	—	420.0
1973–4		12.8	109.5	183.0	244.4	253.4	257.4	259.7	260.3	260.5	—	—	—	
1974–5		9.3	24.4	49.6	69.2	69.2	71.6	75.2	76.6	76.8	—	—	—	
1975–6		18.7	52.7	112.1	137.3	142.8	145.9	146.6	147.0	147.0	147.0	—	—	
1976–7	1.5	18.5	102.6	204.8	238.0	252.8	261.1	266.4	272.5	274.5	—	—	—	
1977–8	31.31	90.3	517.8	710.0	903.2	966.9	1,007	1,018	1,032	1,041	1,045	—	—	
1978–9	9.51	57.4	303.6	458.5	583.5	605.0	616.2	620.0	629.7	637.5	639.5	639.8	—	
1979–0	2.2	17.3	106.1	206.3	347.8									

Source: U.S. Department of Agriculture

Corn Price Support Data in the United States

Year Begin. Oct. 1	National Avg. Loan Rate	Target Price	Placed Under Support: Loans	Placed Under Support: Purchase Agreements	Placed Under Support: Total	Redemptions	Delivered to CCC	Resealed	Total Deliveries[2]	Stocks at Close of Mkt. Year (Sept. 30): Under Loan or Owned by CCC	Stocks at Close of Mkt. Year (Sept. 30): "Free"	Stocks at Close of Mkt. Year (Sept. 30): Total	Support Price to Noncompliers ¢ Bush.	CCC Inventory as of Dec. 31: Bush. (Million)	CCC Inventory as of Dec. 31: Outstanding (Million)
	$ Bush.	$ Bush.	Millions of Bushels												
1967–8	135	—	466.8	30.3	497.0	104.8	116.7	275.5	193.0	714	455	1,169	0	138	418
1968–9	135	—	403.4	.5	403.9	262.6	11.1	130.2	36.0	736	382	1,118	0	261	633
1969–0	135	—	398.0	—	398.1	289.8	2.1	106.2	2	543	462	1,005	0	296	567
1970–1	135	—	323.3	.6	324.0	205.8	5.9	112.3	6	330	337	667	0	215	454
1971–2	135	—	954.4	—	953	559	16	377	16	718	408	1,126	0	144	761
1972–3	141	—	419.7		420					172	537	709	0	140	735
1973–4	164	—	260.6		261					8	484	484		70	109
1974–5	110	—	76.8		77	77	0			0	361	361		6	49
1975–6	110	138	147.0		147	147	0			0	399	399		—	110
1976–7	150	157	266		278	267	—			0	884	884		—	206
1977–8[1]	200	200	1,160		1,160	575	94			10	1,094	1,104		1	765
1978–9[1]	200	210	640		640	237	—			96	1,190	1,286		77	1,038
1979–0[1]	210	220	32		32	5	—					1,811			
1980–1															

[1] Preliminary. [2] Includes "delivered to CCC" from original program and deliveries from reseal program and over-deliveries as determined by weight of farm-stored grain when delivered to CCC. *Source: Commodity Stabilization Service, U.S.D.A.*

Average Price Received by Farmers for Corn in the U.S. In Cents Per Bushel

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average[1]
1970–1	134	129	136	142	143	143	141	138	143	136	119	111	133
1971–2	100	97	108	109	109	110	113	115	113	114	115	122	108
1972–3	119	120	142	139	135	137	142	161	199	203	268	215	157
1973–4	217	218	239	259	276	268	241	245	257	291	337	330	255
1974–5	345	332	327	307	286	267	268	266	268	272	295	276	303
1975–6	262	233	237	244	248	250	246	261	274	282	264	260	254
1976–7	233	202	224	234	234	235	231	225	212	188	163	160	215
1977–8	167	188	197	200	203	215	[illegible]	229	228	216	201	198	202
1978–9	197	202	209	211	218	222	227	234	249	264	254	251	228
1979–0	241	227	238	245	239	240	231						
1980–1													

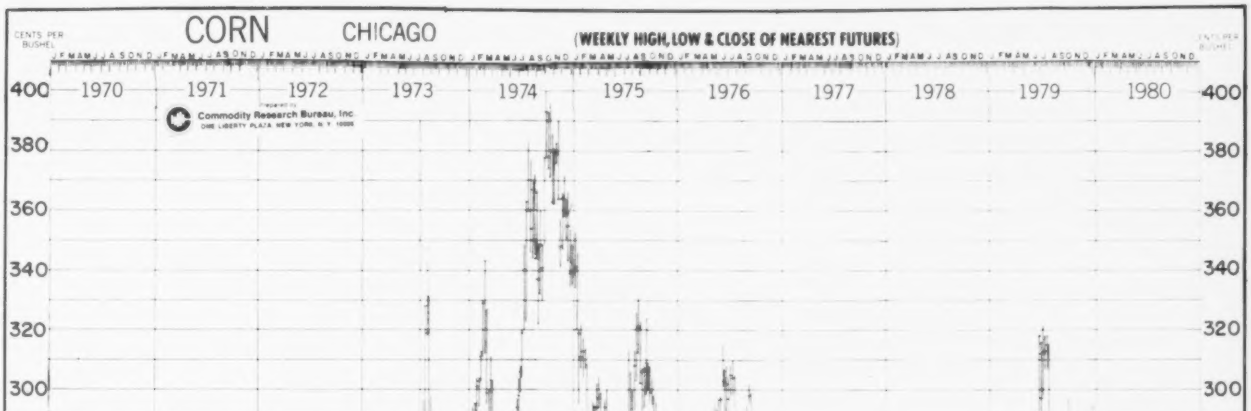
[1] Weighted average by sales. *Source: Crop Reporting Board, U.S.D.A.*

CORN

Average Cash Price of Corn, No. 2 Yellow[3] at Chicago In Cents Per Bushel

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average[1]
1967–8	115.0	106.0	111.0	110.0	112.0	114.0	113.0	117.0	113.0	110.0	106.0	106.0	112.0
1968–9	106	113	114	118	116	115	120	130	130	127	128	119	117
1969–0	116	115	115	122	123	122	126	130	134	138	147	150	125
1970–1	140	141	152	159	157	155	151	151	159	149	129	115	144
1971–2	110	107	121	122	121	123	126	129	127	129	130	136	118
1972–3[3]	132	133	157	158	159	159	165	201	242	252	291	247	191
1973–4	237	250	268	290	313	299	269	270	293	335	363	355	295
1974–5	374	348	347	319	296	290	296	282	289	295	312	299	312
1975–6	274	259	259	262	270	268	268	284	296	296	287	277	275
1976–7	249	233	244	253	254	252	250	241	227	205	178	180	230
1977–8	184	214	219	219	221	236	251	257	251	228	217	213	226
1978–9[2]	222	228	227	229	235	242	253	266	283	300	283	278	254
1979–0[2]	273	259	267	244	265	260	261						
1980–1													

[1] Weighted average by carlot sales. [2] Preliminary. [3] Prices prior to 1972–3 are for NO. 3 YELLOW AT CHICAGO.
Source: Economic Research Service, U.S.D.A.



Corn Oil

Supply & Distribution of Corn Oil In Millions of Pounds

Year Beginning Oct.	Supply				Disappearance									
					Food Uses					Non-Food Uses				
	Production	Imports	Stocks Oct. 1	Total Supply	Shortening	Margarine	Salad & Cooking Oil	Other	Total Food Uses	Foots & Loss	Other	Total Non-Food Uses	Total Domestic Disappearance	Total Exports & Shipments
1967–8	442	9	47	498	11	174	208	6	398	34	—	34	432	25
1968–9	467	8	41	516	11	177	188	9	384	32	—	32	416	29
1969–0	474	3	71	548	14	181	215	6	417	37	—	37	454	34
1970–1	485	1	60	546	8	188	202	6	403	41	—	41	445	43
1971–2	499	—	58	557	1	190	203	10	403	35	1	36	439	49
1972–3	523	—	70	593	3	207	231	6	447	44	1	45	492	44
1973–4	528	1	57	586	6	198	198	2	404	45	1	46	450	68
1974–5	465	2	68	535	7	185	164	1	356	42	—	43	399	84
1975–6[1]	644	1	52	697	4	212	297	1	514	44	1	45	559	98
1976–7[2]	669	10	41	720									581	93
1977–8[2]	738	3	46	787									574	116
1978–9[2]	736	—	73	809									613	125
1979–0[2]	750	—	70	820									600	150
1980–1														

[1] Preliminary. [2] Forecast. *Source: Economic Research Service, U.S.D.A.*

Crude Corn Oil Production in the United States In Millions of Pounds

Crop Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1967–8	38.9	35.5	33.8	35.1	37.6	38.5	39.0	40.7	38.8	36.6	33.4	34.4	442
1968–9	41.4	39.5	37.8	38.0	36.1	39.5	40.0	39.5	40.1	37.5	38.5	39.2	467
1969–0	41.2	37.9	38.0	36.9	38.6	43.9	42.1	44.5	41.3	38.5	37.4	34.0	474
1970–1	42.0	40.1	34.7	38.0	37.3	43.7	41.4	41.0	42.7	42.4	40.1	42.0	405
1971–2	42.4	40.7	33.4	38.7	38.7	43.5	40.0	46.1	45.7	43.3	43.5	43.2	499
1972–3	44.1	40.3	40.1	42.6	41.7	46.3	40.6	47.5	45.9	45.8	44.3	43.8	523
1973–4	45.2	42.4	43.1	45.1	41.8	45.4	46.5	46.8	43.8	40.5	44.0	43.0	528
1974–5	41.2	40.1	40.1	37.0	34.6	38.6	37.6	40.6	38.9	40.5	35.2	40.3	465
1975–6	39.8	40.3	35.4	55.2	53.8	55.1	59.5	61.7	59.1	58.9	65.8	59.6	644
1976–7[1]	62.0	50.4	51.3	48.1	49.0	59.2	55.6	58.1	57.9	64.0	59.3	53.7	668.6
1977–8[1]	58.9	58.0	50.1	54.9	51.6	58.7	57.1	68.0	64.7	60.5	59.7	63.8	695.5
1978–9[1]	65.4	59.8	55.8	47.6	54.9	69.4	67.4	69.7	60.6	61.5	63.9	60.3	736.3
1979–0[1]	61.8	63.3	63.0	62.3	60.1								
1980–1													

[1] Preliminary. *Source: Economic Research Service, U.S.D.A.*

Corn Oil Spot Price, Crude, F.O.B. Midwest Mills (Tank Cars) In Cents Per Pound

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
1967–8	11.6	12.1	12.7	14.7	16.9	16.5	14.5	14.4	13.7	13.8	16.3	15.7	14.4
1968–9	14.8	15.6	15.9	16.9	16.6	14.6	13.1	12.7	12.6	12.9	12.7	12.6	14.2
1969–0	13.7	14.9	15.2	15.5	16.4	15.5	14.8	15.3	15.0	14.8	15.5	16.0	15.2
1970–1	17.8	19.5	21.5	22.5	27.5	21.0	17.0	18.8	19.5	19.3	18.9	17.8	20.1
1971–2	17.8	19.0	18.0	18.0	17.3	17.3	17.0	17.5	16.3	15.0	14.5	15.3	16.9
1972–3	16.0	15.8	16.5	17.8	17.3	17.8	17.5	19.0	21.0	20.8	35.0	23.0	19.8
1973–4	24.0	25.5	32.0	39.0	45.0	39.5	33.0	38.5	38.0	38.0	47.5	38.0	36.5
1974–5	45.0	45.0	42.0	44.0	40.5	39.0	37.0	27.0	26.5	29.5	31.0	28.0	36.2
1975–6	29.0	28.5	28.5	32.5	28.5	26.5	23.3	19.8	22.0	26.0	23.5	27.0	26.3
1976–7[1]	27.1	27.5	26.0	28.0	36.0	36.0	34.5	35.5	31.0	27.5	23.5	23.2	29.7
1977–8[1]	26.5	31.5	35.0	40.0	44.0	43.0	36.5	35.3	33.0	33.3	31.5	35.5	35.4
1978–9[1]	34.0	35.0	31.0	35.0	34.0	33.3	32.1	33.0	30.0	31.0	32.3	32.5	32.8
1979–0[1]	32.8	29.9	33.3	27.5	29.0	26.0							
1980–1													

[1] Preliminary. *Source: Economic Research Service, U.S.D.A.*

Cotton

The 1979 U.S. cotton crop totaled 14.6 million bales, 35 percent above the previous season's output and the largest since 1965/66, represented 22 percent of the world's cotton crop. Producers harvested 13 million acres out of 14 million planted. Average yield was estimated at a record-high 548 pounds per harvested acre, well above the previous season's abnormally low 421 pounds.

The Southwest (Texas and Oklahoma) and the West (Arizona, California, and New Mexico) accounted for 75 percent of 1979 cotton production. This was the largest share ever for these regions, and the first time it exceeded 70 percent. This shift in production to the Southwest and the West was largely due to their lower average production costs and fewer alternate crops than in other regions.

Total supply of U.S. cotton for the 1979/80 season ending July 31, 1980, at 18.6 million bales, was about 2.4 million bales larger than for the previous season, about 22 percent of total world cotton supply.

U.S. textile mills were expected to consume 6.5 million bales of cotton in 1979/80, virtually unchanged from the 1978/79 season's total. Excellent demand for denim, corduroy, velours, and for all-cotton durable press shirts helped the consumption outlook. Increased textile exports and reduced textile imports as well as more competitive cotton prices relative to man-made fibers in 1979 also helped to maintain cotton use. The gap between cotton and man-made fiber prices narrowed during 1979. Mills were paying 16 cents per pound more for cotton in January 1979 than for polyester staple; by December, the difference had narrowed to 7 cents per pound.

World consumption of cotton for the 1979/80 season ending July 31, 1980, was forecast by the USDA at a record-high 64.3 million bales, 1.6 million above 1978/79 use, with the increase occurring outside the U.S. Consumption rates were being well maintained, despite the uncertain economic and political climate worldwide, although some slackening in demand was anticipated late in the season as recessionary tendencies became more evident.

The U.S. was expected to export as much as 8.5 million bales of cotton in the 1979/80 season, compared with exports of 6.2 million bales in 1978/79, the largest since 1932/33. Strong demand by the People's Republic of China (which was expected to be the best U.S. customer in 1979/80), Japan, and Korea accounted for most of the increased sales to Asia—the principal market for U.S. cotton. U.S. cotton sales to Europe were helped by extremely light offers of cotton by the Soviet Union at relatively high prices. Based on projected exports of 8.5 million bales, U.S. cotton exports would account for 38 percent of world exports in the 1979/80 season, compared with 32 percent in 1978/79 and an average of about 25 percent during the 1973/4–1977/8 period.

The U.S. cotton carryover on August 1, 1980, was projected to decrease to about 3.7 million bales from the relatively low 4.0 million bales on hand a year earlier. Also, European stocks of cotton at the end of the 1978/79 season were expected to decline. Total world cotton carryover on August 1, 1980, was projected to decrease by about 3.3 million bales to about 22.1 million, the equivalent of only about 4.1 months' consumption requirements.

U.S. Government Activities

The Food and Agriculture Act of 1977 provides for discontinuation of the loan extension and opening of an import quota equal to a 21-day domestic mill supply of cotton for any month in which the average spot market price of Strict Low Middling $1\frac{1}{16}$ inch (grade 41 staple 34) cotton in the designated spot markets for the preceding month exceeds 130 percent of the average spot price for the preceding 36 months. The average spot price for February 1980 was 80.66 cents per pound, or 134 percent of the average price (78.45¢) for the preceding 36-month period. Consequently, loan extensions were no longer available on loans scheduled to mature after March 30, 1980 (but would be made available again when market prices dictated).

The *loan rate* for 1980 crop upland cotton is 48 cents per pound, the legislative minimum, basis Strict Low Middling $1\frac{1}{16}$ inch cotton (micronaire 3.5 through 4.9), net weight, at average location.

Deficiency payments will be made to producers if the average market price received by farmers for upland cotton during the 1980 calendar year is less than the established target price (based on the

World Production of Cotton In Thousands of Bales[3]

Year Begin. Aug. 1	Argentina	Brazil	China	Egypt	India	Iran	Mexico	Pakistan	Israel	Sudan	Colombia	Turkey	United States	U.S.S.R.	World Total
1967–8	340	2,750	8,900	2,014	5,300	545	2,000	2,400	131	900	465	1,825	7,215	9,370	49,653
1968–9	520	3,320	8,300	2,013	4,900	770	2,450	2,433	154	1,050	640	2,005	11,030	9,200	55,195
1969–0	670	2,675	8,100	2,497	4,850	760	1,750	2,470	183	1,135	590	1,845	9,950	8,850	52,730
1970–1	390	2,740	9,200	2,346	4,400	710	1,440	2,502	163	1,130	540	1,845	10,269	10,800	54,396
1971–2	400	3,135	10,200	2,351	5,800	680	1,715	3,263	169	1,125	590	2,420	10,270	11,000	59,759
1972–3	575	3,000	9,800	2,369	5,370	965	1,780	3,237	186	920	630	2,505	13,890	11,100	63,190
1973–4	585	2,465	11,700	2,258	5,530	920	1,500	3,037	173	1,090	620	2,365	13,300	11,100	63,537
1974–5	790	2,440	11,500	2,018	5,950	1,095	2,230	2,925	230	1,015	700	2,760	11,525	12,250	64,662
1975–6	615	1,825	10,700	1,762	5,350	640	910	2,370	225	500	560	2,215	8,500	11,730	54,396
1976–7	785	2,550	10,000	1,828	4,950	720	1,045	1,930	247	735	685	2,190	10,650	12,050	57,540
1977–8	1,050	2,200	9,450	1,840	5,580	820	1,627	2,550	295	915	645	2,650	14,525	12,700	64,108
1978–9[1]	800	2,650	10,000	2,022	6,080	610	1,570	2,190	365	635	375	2,200	10,885	12,400	60,134
1979–0[2]	800	2,700	9,800	2,172	5,800	500	1,550	3,000	345	750	500	2,300	14,600	13,100	64,783

[1] Preliminary. [2] Estimate. [3] U.S. is in running bales (500 lbs.); all others are 478 pound net weight bales.
Source: International Cotton Advisory Committee

higher of the loan rate or the calendar year average farm price). Under the Agricultural Adjustment Act of 1980, signed on March 18, 1980, the 1980 cotton *target price* was set at 58.4 cents per pound. There is no required set-aside or voluntary diversion of cropland for the 1980 cotton crop. Cotton loans on the 1980 crop will be made for 10 months beginning on the first day of the month in which the loan is made.

Futures Markets

Cotton futures are traded on the New York Cotton Exchange. There is also trading in a short staple futures contract in Hong Kong.

Supply and Distribution of All Cotton in the United States In Thousands of (480-Lb. Net Weight) Bales

Crop Year Beginning Aug. 1	Supply												Distribution		
	Carryover, Aug. 1						Ginnings								
	Privately Owned														
	At Mills	In Public Storage	Elsewhere	Total	CCC Held	Total Stocks	Current Crop[2] Less Ginnings	New Crop[3]	Total[4]	Imports	City Crop	Total	Mill Consumption	Exports	Total
1969–0	1,638	1,572	400	3,610	2,911	6,521	9,857	6	9,863	52	40	16,534	8,114	2,878	10,992
1970–1	1,423	947	360	2,730	3,030	5,760	10,106	127	10.233	37	77	16,108	8,204	3,897	12,101
1971–2	1,641	1,908	400	3,949	303	4,252	10,107	40	10,147	72	81	14,552	8,259	3,385	11,644
1972–3	1,540	1,357	80	2,977	257	3,234	13,227	3	13,230	34	10	16,504	7,769	5,311	13,080
1973–4	1,500	1,881	350	3,731	198	3,929	12,608	145	12,753	48	20	16,750	7,472	6,123	13,595
1974–5	1,439	1,886	200	3,525	218	3,743	11,189	30	11,214	34	10	15,000	5,860	3,926	9,786
1975–6	1,132	4,074	275	4,511	970	5,481	8,151	47	8,198	92	5	13,776	7,250	3,311	10,561
1976–7	1,210	2,234	150	3,471	123	3,594	10,300	85	10,385	38	54	14,073	6,674	4,784	11,458
1977–8	1,089	1,850	–11	2,920	332	2,928	13,933	144	14,077	5	0	17,002	6,483	5,484	11,967
1978–9[1]	1,167	3,966	214	4,057	1,269	5,347	10,405	72	10,477	4	0	15,840	6,352	6,180	12,532
1979–0[1]	966	2,711	281	3,145	637	3,782	14,190	76	14,266	15	12	18,065	6,365	8,040	14,405
1980–1															

[1] Preliminary. [2] Less ginnings prior to Aug. 1. [3] Ginnings prior to Aug. 1 end of season. [4] Includes inseason ginnings. *Source: Economic Research Service, U.S.D.A.*

Supply and Distribution of Cotton in Foreign Countries In Millions of Bales (480 Lb. Net)

Year Beginning Aug. 1	Foreign Non-Communist Areas							Communist Areas						
	Supply				Distribution			Supply				Distribution		
	Stocks Aug. 1	Production	Imports	Total Supply	Consumption[3]	Exports	Stocks July 31	Stocks Aug. 1	Production	Imports	Total Supply	Consumption[3]	Exports	Stocks July 31
1969–0	13.3	26.1	13.4	52.8	27.3	12.3	12.1	3.9	17.0	4.0	24.9	19.7	2.3	2.9
1970–1	12.1	23.5	14.2	49.8	27.2	11.3	10.7	3.2	19.9	4.7	27.7	20.4	2.6	4.7
1971–2	10.7	28.2	13.9	52.8	28.0	12.4	12.0	6.1	21.1	4.5	31.7	22.2	2.9	6.6
1972–3	12.0	28.3	15.3	55.6	29.7	12.5	13.2	6.6	20.9	5.6	33.1	22.9	3.3	6.8
1973–4	13.2	27.5	14.7	55.4	31.1	10.0	14.1	6.8	22.8	5.4	35.0	23.9	3.5	7.7
1974–5	14.1	29.0	12.6	55.7	29.0	9.7	16.8	7.7	23.8	4.4	35.9	23.8	3.8	8.3
1975–6	16.8	23.2	15.0	55.0	31.2	11.7	12.0	8.3	22.4	4.4	35.1	22.7	4.1	8.3
1976–7	12.0	24.7	13.7	50.4	30.7	8.3	11.1	8.3	22.1	4.3	34.7	23.6	4.5	6.7
1977–8	11.1	27.3	14.8	53.2	30.4	9.4	13.1	6.7	22.2	5.2	34.1	24.3	4.3	5.5
1978–9[1]	13.1	26.6	14.1	53.8	31.7	9.4	12.5	5.5	22.3	5.7	33.5	24.7	3.8	5.0
1979–0[2]	12.5	27.1	14.5	54.1	32.5	9.5	12.1	5.0	23.1	6.5	34.6	25.2	4.1	5.2
1980–1[2]	12.1							5.2						

[1] Preliminary. [2] Estimate. [3] Includes destroyed & unaccounted for. *Source: Economic Research Service, U.S.D.A.*

United States Cotton Ginnings

Crop Year	Ginnings to: (In Thousands of Running Bales)													
	Aug. 1	Aug. 16	Sept. 1	Sept. 16	Oct. 1	Oct. 15	Nov. 1	Nov. 14	Dec. 1	Dec. 15	Jan. 1	Jan. 16	Feb. 1	Total Crop
1969–0	80	361	528	729	1,606	3,809	5,783	6,893	8,379	9,110	—	9,815	—	9,937
1970–1	6	70	280	519	1,135	2,609	4,163	6,470	8,830	9,786	—	10,037	—	10,112
1971–2	123	216	365	475	879	2,587	4,604	6,572	7,895	8,186	—	9,723	—	10,229
1972–3	40	N.A.	521	784	1,821	4,439	6,845	8,242	9,308	10,442	11,603	11,879	12,269	13,269
1973–4	3	N.A.	135	246	496	1,826	5,014	7,070	9,197	10,712	11,601	12,023	12,373	12,611
1974–5	145	N.A.	543	626	827	2,315	4,944	6,509	8,291	9,687	10,598	10,899	11,195	11,328
1975–6	30	N.A.	169	228	373	1,060	2,767	4,169	5,794	7,013	7,603	7,877	8,055	8,151
1976–7	47	N.A.	374	443	573	1,564	3,703	[illegible]	7,658	9,125	9,887	10,110	10,251	10,347
1977–8	85	N.A.	694	1,169	2,353	4,343	7,493	9,723	11,711	12,963	13,513	13,742	13,859	14,018
1978–9	144	N.A.	672	788	1,490	2,904	4,659	5,890	6,668	8,096	9.317	9,723	10,049	10,549
1979–0[1]	72	N.A.	539	697	916	2,122	4,796	7,336	9,937	11,784	12,733	13,447	13,835	14,460
1980–1														

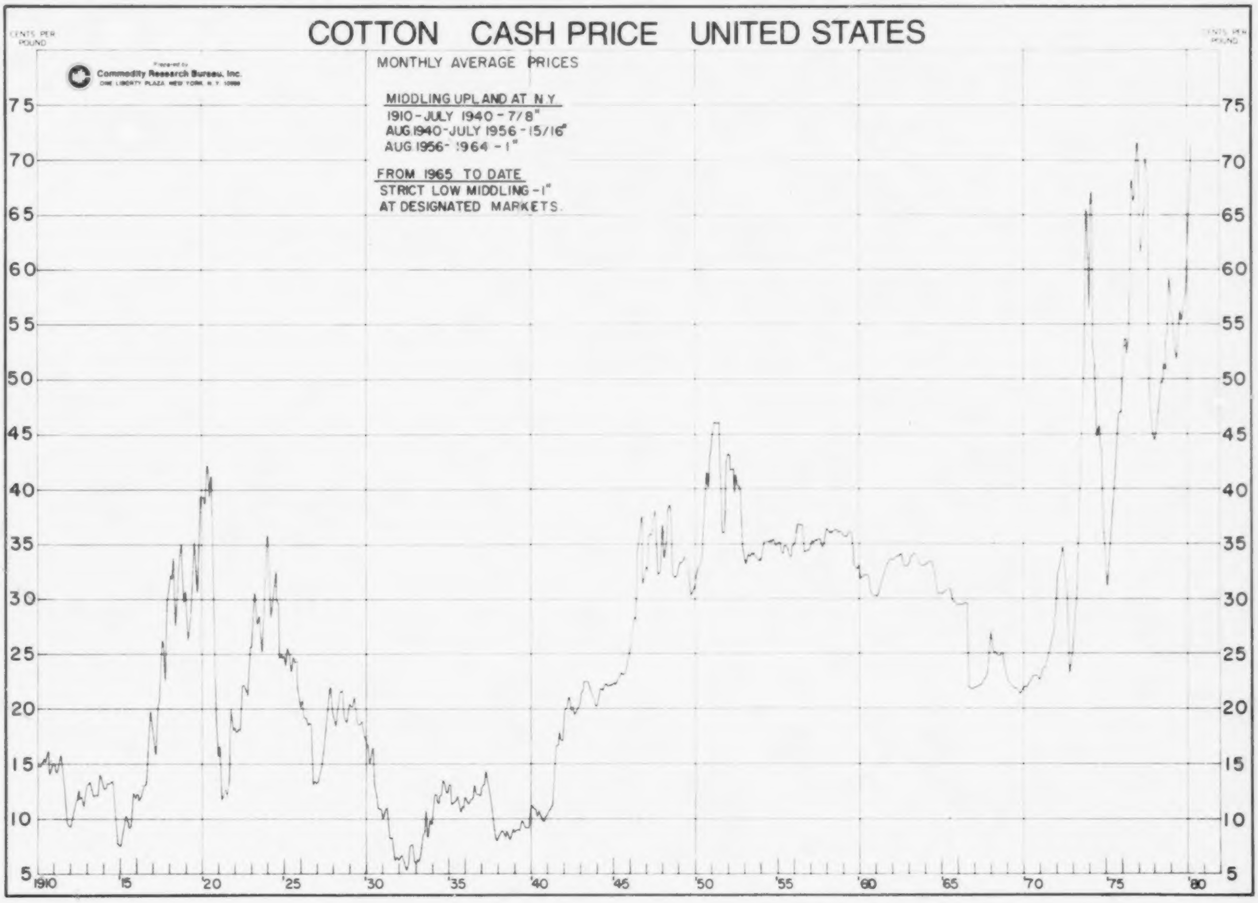
[1] Preliminary. *Source: Bureau of Census*

COTTON

Average Spot Cotton Prices,[3] C.I.F. Northern Europe In Cents Per Pound (Equivalent U.S. ¢/Lb.)

	M 1"		SM 1⅟16"								SM 1⅛"	
Year	U.S.	Pakistan 289F	Index[2]	U.S.	Mexico	Nicaragua	Syria	U.S.S.R. Pervyi 31⁄32 MM	Iran	Turkey (12 MIR)	U.S.	Uganda BP52
1968	28.22	28.28	30.76	33.07	30.89	29.40	32.29	32.46	32.00	31.14	34.85	37.74
1969	25.53	27.09	27.83	28.47	28.45	26.70	29.21	29.39	28.52	27.88	29.97	33.55
1970	27.46	29.60	28.93	29.68	30.71	28.45	29.26	32.47	29.20	28.35	31.32	33.15
1971	32.64	33.25	33.88	34.21	35.46	33.68	34.30	35.06	34.47	33.62	35.37	39.49
1972	34.66	32.63	36.28	36.55	37.52	35.34	37.82	37.01	37.66	37.05	37.44	39.89
1973	56.43	52.05	N.Q.	64.91	52.51	60.21	63.90	64.15	62.31	62.56	66.28	75.66
1974	58.91	51.52		66.69	66.16	61.06	74.06	66.71	67.60	69.54	68.17	79.84
1975	N.Q.	N.Q.		59.65	55.59	51.19	55.87	53.21	53.82	54.01	61.28	67.55
1976				79.88	79.26	77.12	78.15	78.11	78.50	77.68	78.98	91.73
1977				72.31	73.87	68.74	74.25	70.60	72.02	76.53	75.27	102.25
1978				72.52	72.94	70.21	72.08	72.55	75.10	73.46	77.99	N.Q.
1979[1]				77.22	77.43	73.97	81.08	78.73	80.77	82.53	N.A.	N.A.
July '79				77.06	77.25	74.50	N.Q.	77.81	N.Q.	N.Q.		
Aug. '79				77.85	77.65	N.Q.	N.Q.	78.30	N.Q.	N.Q.		
Sept. '79				78.44	77.94	N.Q.	N.Q.	78.38	N.Q.	N.Q.		
Oct. '79				78.44	77.81	N.Q.	79.80	78.94	N.Q.	82.00		
Nov. '79				80.65	80.05	78.88	81.08	81.85	82.70	83.55		
Dec. '79				82.25	82.25	79.83	83.50	84.67	85.17	85.33		
Jan. '80												
Feb. '80												

[1] Preliminary. [2] Index average of the 6 cheapest of 12 growths of American type SM 1—1⁄16" cotton. [3] Generally for prompt shipment. *Source: Foreign Agricultural Service, U.S.D.A.*



World Consumption[3] of All Cottons in Specified Countries In Thousands of Bales (478 Pounds Net[2])

Yr. Beg. Aug. 1	Argentina	Brazil	China	East. Europe	France	W. Germany	India	Italy	Japan	Mexico	Pakistan	Un. Kingdom	United States	U.S.S.R.	World Total
1967–8	433	1,250	8,700	2,632	1,120	1,189	5,335	1,028	3,350	710	1,560	831	8,982	7,800	54,228
1968–9	475	1,330	8,700	2,590	1,123	1,177	5,370	1,021	3,476	685	1,775	816	8,242	7,900	54,471
1969–0	477	1,350	8,700	2,627	1,143	1,170	5,520	1,021	3,392	685	2,120	792	7,991	8,100	55,921
1970–1	492	1,380	9,300	2,707	1,095	1,078	5,200	925	3,541	675	1,985	741	8,068	8,400	56,230
1971–2	500	1,500	10,600	2,745	1,085	1,109	5,500	924	3,614	750	2,020	638	8,039	8,500	58,573
1972–3	465	1,700	11,300	2,755	1,064	1,074	5,700	862	3,724	800	2,485	650	7,800	8,500	60,434
1973–4	520	1,750	12,000	2,790	1,077	1,096	5,865	898	3,650	830	2,485	560	7,500	8,600	62,186
1974–5	515	1,800	11,800	2,750	932	962	5,785	828	2,900	820	2,020	510	5,885	8,700	58,517
1975–6	540	1,950	10,700	2,792	935	1,022	6,100	901	3,250	835	2,150	494	7,300	8,750	61,309
1976–7	530	2,000	11,400	2,792	961	966	5,500	923	3,150	760	1,800	491	6,702	8,750	60,813
1977–8	480	2,260	12,100	2,827	850	810	5,320	841	3,000	740	1,900	415	6,514	8,850	61,002
1978–9[1]	505	2,400	12,300	2,900	825	780	5,850	980	3,350	760	2,000	449	6,374	8,900	63,209
1979–0[4]			12,500				6,000		3,500				6,400	9,000	64,100
1980–1															

[1] Preliminary. [2] Except for the U.S. which are in running bales. [3] Includes estimates for hand spinning in some countries. Excludes cotton burned or otherwise destroyed. [4] Estimate. *Source: International Cotton Advisory Committee*

Cotton Government Loan Program in the United States

Crop Yr. Beginning Aug.	Acreage		Loan Rate		Supply & Distribution of Gov't Controlled Cotton									
					Stocks—Aug. 1									
	Allotments	Harvested	Avg. at Spot[2] Mkts.	Target Price	Gov t. Owned	Pooled	Loan	Total Stock	Loan Entries	Gov t. Purchases	Total Supply	Gov t. Cotton Released	Loan Cotton Repossessed	Total Distribution
	Thousand Acres		¢ Per Lb.		In Thousands of Running Bales									
1967–8	16,271	7,997	20.36	—	5,829	—	—	5,829	1,514	—	7,343	5,675	1,461	7,136
1968–9	16,271	10,159	20.34	—	207	—	—	207	4,443	—	4,650	81	1,658	1,739
1969–0	16,280	11,051	20.34	—	2,911	—	—	2,911	3,707	—	6,618	801	2,638	3,439
1970–1	17,228	11,155	20.37	—	3,035	—	—	3,035	2,411	—	5,446	2,734	2,399	5,133
1971–2	11,618	11,471	19.70	—	313	—	—	313	1,250	—	1,563	288	1,006	1,294
1972–3	11,618	12,984	19.71	—	25	—	244	269	1,945	—	2,214	24	2,006	2,030
1973–4	10,118	11,970	20.65	—	1	—	183	184	1,757	—	1,941	1	1,689	1,690
1974–5	11,118	12,547	27.06	38.00	—	—	251	251	2,465	—	2,716	0	1,677	1,677
1975–6	11,097	8,796	36.12	38.00	—	—	970	970	701	—	1,671	0	1,548	1,548
1976–7	11,084	10,914	38.92	43.20	—	—	123	123	952	—	1,075	—	743	743
1977–8	11,120	13,275	44.63	47.80	—	—	332	332	4,565	—	4,897	—	3,628	3,628
1978–9[1]	10,340	12,370	48.00	52.00	—	—	1,269	1,269	1,559	—	2,828	—	2,191	1,800
1979–0[3]	10,749	12,967	50.23	57.70	—	—	637	637	1,670	—	2,307	—	1,300	1,300
1980–1[3]	None		48.00	58.40										

[1] Preliminary. [2] Strict low middling, 1/16″ and 10 markets. [3] Estimate. [4] Early forfeitures. *Source: Department of Agriculture*

United States Government Crop Forecasts and Actual Cotton Crops

Year	Forecasts of Production (1,000 Bales of 480 Lbs.[1]					Actual Crop	Forecasts of Yields (In Lbs. Per Harv. Acre)					Actual Yield
	Aug. 1	Sept.1	Oct. 1	Nov. 1	Dec. 1		Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	
1967	8,332	8,185	8,089	7,969	7,618	7,443	468	460	454	448	452	447
1968	10,976	11,197	11,071	10,912	10,822	10,926	511	521	515	508	511	516
1969	11,779	11,088	10,528	10,036	10,080	9,990	504	474	450	429	436	434
1970	11,079	10,752	10,618	10,429	10,270	10,192	470	456	450	442	441	438
1971	10,932	10,952	10,701	10,719	10,548	10,477	452	453	443	444	442	438
1972	13,343	13,582	13,670	13,955	13,469	13,704	487	494	498	504	487	507
1973	12,740	12,939	13,123	13,189	12,961	12,974	493	502	509	512	519	520
1974	12,758	13,200	12,813	12,053	11,702	11,540	470	470	470	443	443	442
1975	9,416	9,309	9,059	9,034	8,476	8,302	484	479	467	466	437	453
1976	10,734	10,375	10,251	9,891	10,264	10,581	466	451	445	435	451	465
1977	13,535	13,302	13,317	13,832	14,496	14,389	506	495	500	503	525	520
1978	11,820	11,155	10,873	10,981	10,841	10,856	462	425	429	418	421	421
1979	13,710	14,245	14,356	14,544	14,527	14,629	497	525	528	535	534	548
1980												

[1] Net Weight bales. Data prior to 1969 are in 500-lb. gross weight bales. *Source: Crop Reporting Board, U.S.D.A.*

Production of Cotton (Lint) & American-Pima in the United States

In Thousands of 480 Pound Net Weight Bales

Year	Alabama	Arizona	Arkansas	California	Georgia	Louisiana	Mississippi	Missouri	No. Car.	Oklahoma	So. Car.	Tennessee	Texas	Total U.S.	American-Pima[2]
1967	200	418	496	1,038	227	427	1,051	59	43	193	178	145	2,740	7,443	69.5
1968	396	688	1,025	1,569	265	544	1,519	196	122	264	250	324	3,499	10,926	78.9
1969	460	595	1,137	1,312	282	482	1,319	325	99	279	205	421	2,831	9,990	77.4
1970	507	462	1,048	1,160	292	521	1,631	224	155	193	211	392	3,191	10,192	57.3
1971	640	466	1,240	1,117	374	600	1,693	401	135	177	275	528	2,579	10,477	98.1
1972	567	603	1,435	1,765	354	705	2,007	439	119	332	308	548	4,246	13,704	95.8
1973	449	611	1,041	1,749	390	521	1,816	180	164	427	290	432	4,673	12,974	78.1
1974	522	995	880	2,595	419	560	1,595	230	133	310	274	308	2,462	11,540	90.2
1975	312	573	687	1,954	148	346	1,040	196	46	170	98	222	2,382	8,302	54.5
1976	349	834	776	2,482	199	553	1,151	165	72	175	145	228	3,307	10,517	64.0
1977	277	1,070	1,035	2,790	82	656	1,645	235	53	436	109	255	5,465	14,277	112.2
1978	291	1,068	660	1,940	111	478	1,378	188	45	355	115	235	3,792	10,762	93.4
1979[1]	320	1,350	610	3,380	155	690	1,450	159	44	520	115	172	5,700	14,775	97.6
1980															

[1] Preliminary, December estimate. [2] Included in U.S. total. *Source: Crop Reporting Board, U.S.D.A.*

Aver. Spot Price of U.S. Cotton, 1$\frac{1}{16}$ inches[1]—Strict Low Middling at Designated Markets

In Cents Per Pound

Yr. Begin. Aug. 1	Atlanta	Augusta	Charleston	Dallas	Fresno	Galveston	Greenville	Greenwood	Houston	Little Rock	Lubbock	Memphis	Montgomery	Phoenix	Average
1967–8	25.66	25.47	—	24.47	24.42	—	25.13	24.54	24.37	24.71	23.92	25.32	26.08	23.89	24.83
1968–9	23.56	23.60	—	22.34	22.25	—	23.55	23.04	22.50	23.19	22.28	23.09	23.55	21.95	22.90
1969–0	22.54	22.93	—	21.93	21.52	—	22.70	22.11	21.93	22.13	21.91	22.28	22.37	21.43	22.15
1970–1	23.84	24.25	—	23.29	22.91	—	24.02	23.68	23.40	23.63	23.28	23.78	23.83	22.72	23.55
1971–2	32.00	32.19	—	31.09	30.68	—	31.80	31.65	31.41	31.40	31.34	31.72	31.96	30.97	31.52
1972–3	35.04	35.02	—	31.31	32.19	—	33.38	33.37	31.38	33.75	32.40	32.45	35.30	32.33	33.14
1973–4[1]	68.63	68.63	—	63.75	71.54	—	68.06	68.06	64.57	—	61.87	68.01	68.44	66.26	67.10
1974–5	—	43.63	—	40.31	42.53	—	42.80	42.20	41.70	—	38.90	41.86	42.45	40.52	41.69
1975–6	—	60.22	—	55.84	58.72	—	59.19	58.54	57.65	—	55.06	58.48	58.93	57.20	57.99
1976–7	—	72.70	—	69.43	71.93	—	71.85	71.21	70.94	—	67.79	71.28	71.54	70.12	70.88
1977–8	—	53.81	—	50.53	56.67	—	53.33	52.75	51.58	—	50.04	52.75	53.24	52.71	52.74
1978–9	—	62.50	—	58.33	67.66	—	62.09	61.84	59.45	—	58.27	61.68	61.92	61.98	61.58
1979–0															

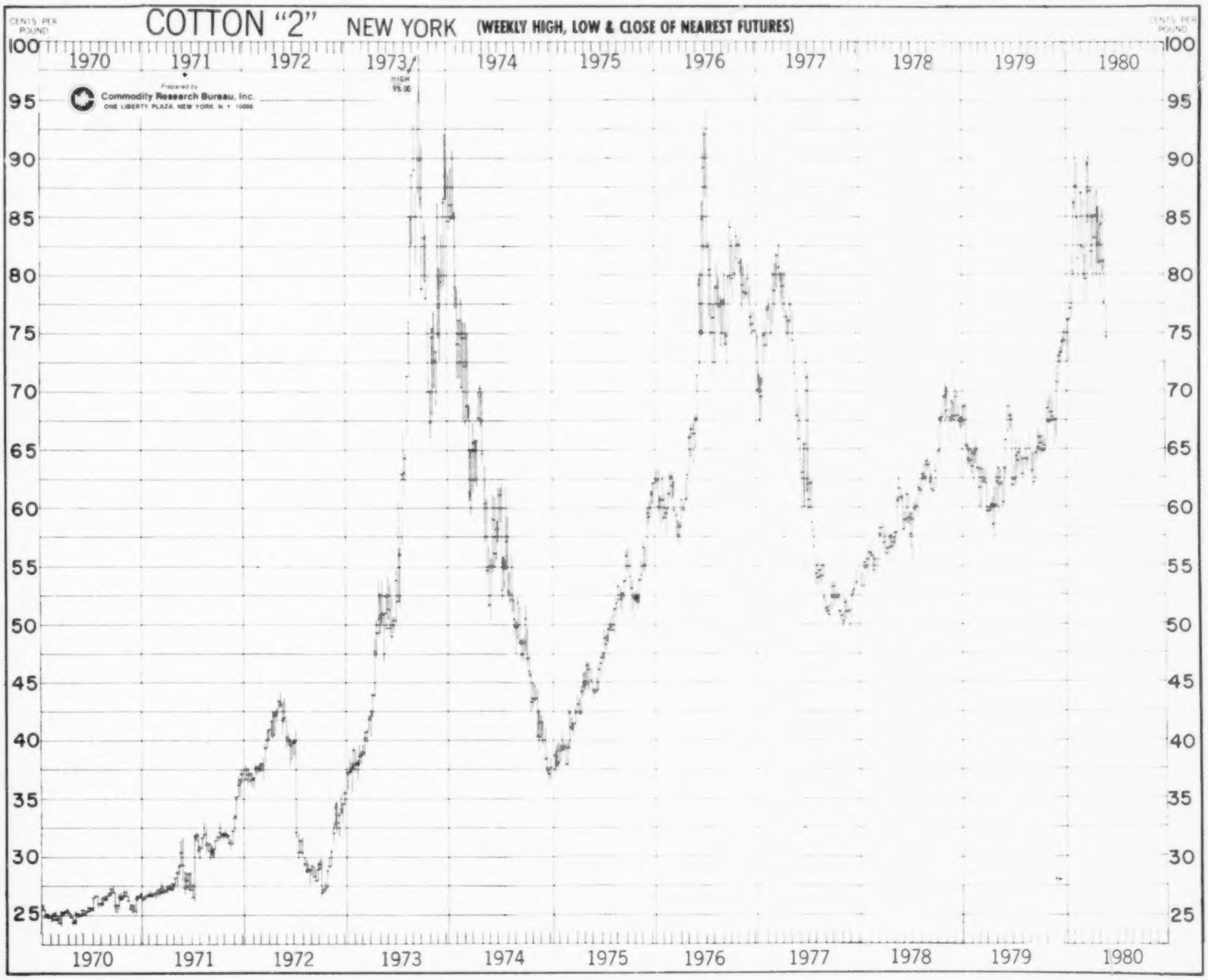
[1] Prior to 1973, prices are for 1 inch middling. *Source: Agricultural Marketing Service, U.S.D.A.*

Gross Entries of Cotton into U.S. Government Loan Program

In Thousands of Running Bales

Crop Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May[1]	June[1]	July[1]	Seasonal Total
1967–8	[2]	14	72	289	280	500	179	54	61	55	11	0	1,514
1968–9	[2]	24	150	696	1,393	1,399	410	171	107	62	31	0	4,443
1969–0	39	74	475	1,084	936	893	140	40	17	7	2	[2]	3,707
1970–1	0	38	158	592	859	697	44	14	7	1	1	[2]	2,411
1971–2	37	13	38	336	285	388	124	23	1	1	2	[2]	1,250
1972–3	0	40	208	364	495	552	148	103	25	6	3	0	1,945
1973–4	0	15	137	479	589	380	96	40	12	5	4	0	1,757
1974–5	0	13	134	356	544	753	294	99	162	63	47	1	2,465
1975–6	0	1	8	80	195	298	94	15	6	5	[2]	0	701
1976–7	0	0	[2]	3	160	123	67	11	412	174	2	[2]	952
1977–8	[2]	31	214	802	1,531	1,544	310	72	30	13	18	[2]	4,564
1978–9	0	5	26	89	215	584	352	189	68	16	14	[2]	1,560
1979–0	0	—	23	294	319	600							
1980–1													

NOTE: Seasonal totals are net, due to allowances for rejections. [1] Entries after April 30 represent late reporting. [2] Less than one thousand bales. *Sources: N.Y. Cotton Exchange; Commodity Credit Corporation*



Average Wholesale Price of Cotton Yarn[1] (30/1[2], Combed, Knitting) on Cones In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	95.1	94.5	94.0	93.4	93.2	92.7	92.0	92.0	92.5	92.7	96.0	102.6	94.2
1968	108.1	108.5	107.0	106.5	104.0	104.0	104.0	103.9	103.7	103.2	103.2	103.2	104.9
1969	103.2	103.2	103.2	102.7	102.7	102.4	102.4	102.4	102.7	102.7	102.4	102.4	102.7
1970	102.1	102.1	101.4	100.8	100.8	100.5	100.1	100.1	100.1	100.3	100.5	101.1	100.8
1971	101.4	102.3	103.6	105.4	105.9	106.6	106.8	107.8	108.2	108.2	108.2	108.8	106.1
1972	109.6	110.7	110.7	111.5	112.1	112.3	112.3	112.1	111.7	110.7	110.3	110.5	110.5
1973[2]	85.4	86.4	88.9	91.0	97.2	100.0	98.8	106.2	108.2	108.8	112.5	116.8	100.0
1974	123.3	123.3	125.0	123.3	125.6	122.7	128.1	122.5	118.5	115.4	114.9	110.5	121.1
1975	106.3	102.9	101.4	101.4	102.7	103.9	105.1	106.3	112.5	117.1	120.5	122.0	108.5
1976	127.2	128.4	128.9	128.4	132.3	139.4	145.8	149.0	148.7	147.5	148.7	147.5	139.3
1977	145.1	144.3	146.3	147.5	148.7	147.3	146.5	142.6	156.5	153.9	153.2	153.9	148.8
1978	153.2	155.2	157.5	158.1	160.1	162.7	163.7	163.7	163.7	165.0	165.0	165.6	161.1
1979	165.6	166.3	165.6	165.6	165.9	166.9	166.9	167.3	167.9	169.9	172.8	176.3	168.1
1980	180.6	198.3											

[1] Natural stock, f.o.b. mill. [2] Data prior to 1973 are for 36/2. *Source: Bureau of Labor Statistics* (0326-0101.05)

COTTON

Avg. Price[1] Received by Farmers for Upland Cotton in the U.S. In Cents Per Pound

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May	June	July	Average[1]
1967–8	21.99	21.27	27.26	30.48	27.61	22.45	20.45	20.29	20.22	21.59	21.12	21.46	25.39
1968–9	25.99	26.24	26.51	24.16	21.55	19.37	19.70	20.57	20.68	20.12	21.32	21.65	22.02
1969–0	20.51	19.39	21.70	21.36	19.95	19.09	20.73	21.14	21.61	22.12	22.14	22.47	20.94
1970–1	22.65	21.86	22.77	22.09	20.92	21.11	21.76	22.51	23.09	22.92	23.11	22.78	21.86
1971–2[2]	26.00	26.12	27.04	27.95	28.37	29.45	30.16	27.60	30.75	31.71	31.29	30.86	28.07
1972–3	30.67	26.69	26.67	27.45	25.21	22.39	22.78	26.38	27.06	30.25	29.52	30.38	27.30
1973–4	37.46	38.20	38.00	39.50	47.60	50.60	52.00	53.40	54.9	49.2	51.5	49.4	44.4
1974–5	53.6	54.9	51.4	50.4	43.8	37.0	32.6	33.5	35.4	36.5	38.9	40.6	42.7
1975–6	43.5	47.2	49.9	49.7	49.6	50.5	51.7	52.7	53.9	57.5	66.9	68.8	51.1
1976–7	59.7	62.4	63.2	65.9	63.7	62.7	64.8	70.1	68.3	66.8	59.8	61.7	63.8
1977–8	58.3	59.1	53.6	52.1	48.7	49.1	51.4	51.1	52.2	53.7	54.8	56.5	52.1
1978–9	57.4	56.2	59.6	61.1	58.1	57.0	55.6	53.5	54.7	56.0	58.8	61.9	58.1
1979–0	59.2	57.3	61.3	61.0	59.9	59.8	62.9	60.7	58.1				
1980–1													

[1] Weighted average by sales. [2] Beginning Aug. 1971 basis for cotton prices was changed from 500 pound gross weight to a 480 pound net weight bale. *Source. Crop Reporting Board, U.S.D.A.*

Consumption of American and Foreign Cotton in the United States In Thousands of Bales[1]

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1967–8	721	850	744	720	825	880	729	721	839	692	682	670	9,071
1968–9	665	643	813	658	577	806	647	664	792	656	644	649	8,215
1969–0	629	634	810	646	717	635	626	780	616	609	730	532	7,965
1970–1	593	760	632	641	722	644	665	815	637	646	797	515	8,068
1971–2	637	771	633	642	727	632	649	808	620	627	772	493	8,010
1972–3	587	715	593	739	544	747	597	601	719	579	575	573	7,569
1973–4	567	543	706	564	509	712	592	587	679	563	546	582	7,150
1974–5	515	489	575	432	343	469	395	400	525	455	477	527	5,602
1975–6	505	531	683	550	624	570	559	712	542	552	692	445	6,965
1976–7	524	626	528	501	582	510	528	653	507	507	616	395	6,477
1977–8[2]	492	606	512	505	562	493	506	620	484	484	575	383	6,222
1978–9[2]	459	569	482	595	435	603	468	506	584	484	489	503	6,177
1979–0[2]	472	482	630	482	436	604	506						
1980–1													

[1] American cotton, running bales; foreign cotton, equivalent 500 lb. bales. [2] Preliminary. *Source: Bureau of the Census*

Exports of American Cotton from the United States to Countries of Destination
In Thousands of Running Bales

Yr. Beg. Aug. 1	Bangladesh	Canada	Hong Kong	France	W. Germany	India	Italy	Japan	Netherlands	Spain	Sweden	United Kingdom	Rep. of Korea	China	Taiwan	World Total
1967–8	—	142	299	148	100	342	253	1,103	36	7	75	125	351	0	378	4,206
1968–9	—	108	195	88	31	174	62	536	19	5	51	48	447	0	259	2,731
1969–0	—	181	61	30	26	261	47	623	19	4	37	38	455	0	193	2,768
1970–1	—	292	193	60	65	210	57	841	34	19	29	95	491	0	407	3,737
1971–2	—	312	48	35	77	101	121	726	30	38	11	63	489	0	288	3,229
1972–3	122	249	193	141	177	—	172	1,039	46	107	33	87	572	0	356	5,007
1973–4	98	258	356	81	101	0	124	1,312	17	35	40	57	722	0	542	5,746
1974–5[1]	51	186	73	65	52	0	97	957	19	58	34	33	628	0	384	3,746
1975–6[1]	142	131	126	23	11	—	53	646	3	17	21	10	893	0	498	3,178
1976–7[1]	122	187	358	45	36	273	85	973	12	86	17	66	913	0	436	4,565
1977–8[1]	42	214	479	80	65	1	77	1,028	21	64	21	59	1,172	414	490	5,219
1978–9[1]	107	214	402	61	92	1	138	1,276	17	62	22	68	1,209	606	431	5,850
1979–0																

[1] Preliminary. *Source: Bureau of the Census*

U.S. Upland Cotton—Ginnings, by Staple Length In Thousands of Bales

Crop Year	7/8″ & Shorter	29/32″	15/16″	31/32″	1″	1 1/32″	1 1/16″	1 3/32″	1 1/8″	1 5/32″ & Longer	Total
1968–9	8.7	117.5	763.0	745.9	784.1	923.0	2,814.3	2,862.4	1,492.3	327.2	10,838.4
1969–0	140.5	416.1	628.9	498.9	552.4	1,037.3	3,050.2	2,849.7	527.1	165.5	9,867
1970–1	37.1	350.1	1,045.8	588.1	524.4	1,016.4	3,771.7	2,001.7	612.1	107.9	10,055
1971–2	69.9	335.5	917.0	491.8	290.6	530.3	2,612.3	3,320.3	1,449.6	116.8	10,134
1972–3	11.6	156.8	802.0	1,187.7	1,145.6	1,318.4	4,694.0	2,859.1	913.9	84.5	13,174
1973–4	33.5	242.3	1,207.9	1,534.9	1,103.6	841.3	3,629.5	3,180.5	724.4	35.0	12,533
1974–5	12.3	70.3	424.0	683.8	594.4	531.7	2,543.3	4,965.9	1,316.3	97.8	11,240
1975–6	71.1	289.0	620.5	693.9	514.9	390.2	1,546.5	2,948.9	995.2	27.5	8,098
1976–7	9.2	77.4	570.3	980.2	889.7	1,060.4	2,525.5	2,952.8	1,179.9	38.7	10,284
1977–8	7.7	61.6	655.9	1,645.0	1,716.0	1,342.4	2,402.0	4,557.7	1,450.0	70.8	13,909
1978–9[1]	9.4	79.6	416.4	867.5	1,326.8	1,114.7	2,531.4	3,109.0	946.6	57.8	10,459
1979–0[2]	18	83	426	1,045	1,388	1,096	1,347	4,207	2,925	118	12,651

[1] Preliminary. [2] Thru Dec. 31. *Source: Consumer & Marketing Service, U.S.D.A.*

Average Spot Price of Strict Low Middling,[1] 1 1/16″[2], Cotton at Designated U.S. Markets ¢/Lb. (Net Weight)

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
1969–0	21.59	21.42	21.68	21.94	22.02	22.00	22.11	22.19	22.44	22.60	22.78	22.96	22.15
1970–1	22.99	22.98	23.00	22.82	22.58	22.81	23.22	23.56	23.79	24.46	25.07	25.31	23.55
1971–2[1]	25.99	26.52	27.03	27.41	29.55	32.35	32.82	33.14	34.30	34.75	33.43	32.13	30.78
1972–3	30.22	25.60	23.26	23.85	25.72	28.05	29.38	30.89	35.31	39.23	39.47	44.06	31.25
1973–4	53.03	65.46	63.24	56.36	65.68	67.11	57.87	53.26	51.52	45.94	44.87	45.92	55.86
1974–5[2]	50.36	47.65	44.59	39.96	36.91	36.10	36.44	37.81	40.43	41.73	42.77	45.57	41.69
1975–6	48.40	50.74	50.38	50.87	55.12	57.17	56.96	55.47	57.18	62.07	72.74	78.73	57.99
1976–7	73.25	72.26	76.98	76.53	73.10	66.95	72.15	75.75	73.67	70.65	61.08	58.18	70.88
1977–8	52.54	49.30	49.06	47.98	48.42	51.05	52.89	55.01	54.72	57.59	57.35	56.99	52.74
1978–9	59.78	60.04	64.08	65.65	64.39	61.48	60.59	58.70	58.05	60.90	63.38	61.87	61.58
1979–0	62.08	62.15	62.88	63.40	66.20	72.40							

[1] Prior to Aug. 1971 prices are for MIDDLING. [2] Prices prior to 1974–75 are for 1″ cotton. *Source: Department of Agriculture*

Average Spot Cotton, 1 3/32″, Price at Designated U.S. Markets In Cents Per Pound (Net Weight)

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average	1 1/32″	1″
1968–9	31.47	31.17	29.74	27.66	26.85	26.67	26.16	26.10	26.05	26.11	26.10	26.13	27.52	24.88	23.85
1969–0	25.75	25.54	25.55	25.58	25.38	25.28	25.36	25.35	25.52	25.64	25.80	25.99	25.57	23.49	23.07
1970–1	25.94	25.68	25.41	25.10	24.86	25.08	25.45	25.90	26.21	26.76	27.36	27.58	25.94	24.59	24.53
1971–2[1]	28.05	28.54	29.05	29.47	31.38	34.04	34.49	34.98	37.01	38.46	36.95	35.38	33.15	31.96	31.51
1972–3	33.29	28.10	25.83	27.32	29.50	32.47	33.33	35.23	40.43	45.34	46.27	52.28	35.78	33.66	33.14
1973–4	67.14	80.71	75.50	66.91	76.82	78.28	68.76	62.58	63.59	56.48	55.40	55.50	67.31	64.59	57.66
1974–5	50.58	47.87	44.81	40.18	37.11	36.30	36.64	38.01	40.60	41.90	42.94	45.74	41.89	40.02	39.08
1975–6	48.57	50.91	50.55	51.07	55.32	57.37	57.16	55.67	57.38	62.27	72.94	78.93	58.18	56.44	54.69
1976–7	73.45	72.46	77.18	76.73	73.30	67.15	72.36	75.96	73.88	70.85	61.26	68.36	71.08	69.34	67.09
1977–8	52.72	49.48	49.24	48.16	48.65	51.28	53.12	55.24	54.95	57.82	57.58	57.22	52.96	51.27	48.26
1978–9	60.01	60.27	64.31	65.94	64.68	61.77	60.88	59.03	58.44	61.30	63.79	62.26	61.89	59.92	55.24
1979–0	62.47	62.54	63.28	63.81	66.58										

[1] Beginning Aug. 1971 prices are for STRICT LOW MIDDLING. *Source: Consumer & Marketing Service, U.S.D.A.*

Cotton Cloth[1] Production in the United States In Millions of Linear Yards

Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year	Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
1967	2,221	2,130	1,896	2,031	8,278	1974	1,322	1,279	1,127	985	4,714
1968	2,034	1,942	1,718	1,782	7,476	1975	902	978	1,051	1,164	4,095
1969	1,824	1,810	1,608	1,723	6,968	1976	1,200	1,157	1,050	1,066	4,474
1970	1,656	1,561	1,468	1,562	6,246	1977[2]	1,207	1,146	982	1,023	4,356
1971	1,607	1,608	1,405	1,527	6,149	1978[2]	1,046	1,010	913	1,020	4,007
1972	1,530	1,475	1,277	1,384	5,616	1979[2]	1,033	1,018	936		
1973	1,377	1,324	1,160	1,226	5,086	1980					

[1] Cotton broadwoven goods over 12 inches in width. [2] Preliminary. *Source: Bureau of the Census*

COTTON

U.S. Daily Rate of Total Cotton Mill Consumption on Cotton-System Spinning Spindles[2]
In Thousands of Running Bales

Crop Yr. Beginning Aug. 1	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1974–5	25,771	24,456	23,003	21,616	17,169	18,753	19,768	20,010	21,002	22,766	23,839	21,079	240,330
1975–6	25,273	26,569	27,325	27,481	24,977	28,478	29,937	28,478	27,110	27,592	27,668	22,230	321,118
1976–7	26,203	25,052	26,392	25,072	23,298	25,475	26,392	26,131	25,359	25,369	24,635	19,730	299,108
1977–8	24,687	24,230	25,590	25,235	22,476	24,629	25,042	24,790	24,213	24,173	22,984	19,169	287,218
1978–9[1]	22,941	22,780	24,090	23,809	21,735	24,114	23,567	25,306	23,358	24,193	24,454	20,127	280,474
1979–0[1]	23,617	24,117	25,188	24,099	21,813	24,160	25,309						

[1] Preliminary. [2] Not seasonally adjusted. *Source: Bureau of the Census; U.S.D.C.*

Exports of American Cotton from the United States
In Thousands of Running Bales

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1968–9	213	262	152	185	276	55	55	130	568	363	194	278	2,731
1969–0	147	141	167	123	176	382	325	246	308	299	269	186	2,768
1970–1	84	89	180	252	362	441	455	562	467	327	307	214	3,740
1971–2	162	310	195	272	417	337	402	437	275	163	147	110	3,227
1972–3	59	82	191	352	534	654	528	676	608	437	500	388	5,009
1973–4	329	266	259	257	592	545	598	778	638	561	496	426	5,745
1974–5	261	125	120	272	350	409	380	346	371	364	392	356	3,746
1975–6	325	258	226	176	237	214	141	381	302	327	315	276	3,178
1976–7	274	342	217	265	376	354	509	536	548	400	462	282	4,565
1977–8	181	200	149	333	496	521	502	704	640	510	528	456	5,220
1978–9	524	388	283	355	464	517	577	574	602	542	614	410	5,850
1979–0	463	428	390	630	902								

Source: Foreign Agricultural Service, U.S.D.A.

Exports of Cotton Cloth from the U.S. to Countries of Destination
In Millions of Square Yards

Year	Argentina	Canada	Central America	Other Asia	Colombia	Cuba	Venezuela	Haiti	Indonesia	Philippines	Rep. of So. Africa	Un. Kingdom	Total Exports
1968	.1	113.2	13.4		.1	0		1.5	1.7	13.3	8.5	5.0	273.1
1969	.3	128.6	14.5		.2	0		1.3	.5	12.5	7.1	5.2	299.7
1970	.3	106.9	14.0		.4	0		1.6	.6	6.6	6.1	7.7	266.6
1971	.2	136.6	9.3		.2	0		1.9	1.1	4.1	5.7	9.4	301.0
1972	[2]	149.7	12.1		.5	0		2.7	.6	3.0	7.5	15.4	378.7
1973	[2]	152.6	12.1		[2]	[2]		1.1	1.1	3.9	11.8	20.4	443.2
1974	[2]	163.4	11.4		[2]	0		1.0	.7	6.2	13.4	33.5	501.9
1975	[2]	136.2	5.5		[2]	0		1.0	.2	5.3	8.2	33.3	454.7
1976	[2]	155.7	7.3		.2	0		2.0	[2]	10.0	6.7	39.7	527.6
1977[1]	.2	144.4	15.2		.4	2.8		2.2	[2]	6.6	4.1	37.4	443.0

[1] Preliminary. [2] Less than 50,000 square yards. *Source: Bureau of the Census*

U.S. Exports of Cotton Cloth (Raw Cotton Equivalent)
In Thousands of Bales (Net Weight—480 Lbs.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1968	19.3	21.9	17.7	24.1	22.7	17.6	17.9	20.5	29.8	17.5	25.5	21.5	256.0
1969	8.0	15.4	35.3	29.3	33.5	28.2	23.7	27.1	26.3	29.6	39.1	34.9	330.5
1970	28.2	23.1	29.1	28.0	25.0	21.2	19.3	16.5	18.6	23.0	22.7	19.7	274.3
1971	20.3	20.5	25.9	25.4	26.3	23.5	24.4	28.1	36.3	13.0	23.7	45.3	312.6
1972	33.8	31.6	37.7	32.2	33.8	35.8	29.7	34.2	31.3	39.0	34.0	36.0	409.2
1973	32.3	30.2	38.3	38.0	38.8	37.9	35.4	33.9	42.5	43.8	44.8	43.3	459.4
1974	44.1	43.6	52.9	51.0	51.5	51.2	44.2	36.7	39.3	41.4	39.4	36.2	531.5
1975	36.9	36.0	43.8	43.8	37.5	37.5	34.3	38.1	41.0	49.8	41.6	39.9	488.3
1976	42.8	41.6	54.6	48.0	41.1	47.8	39.0	39.0	45.8	57.5	45.6	53.2	556.0
1977	42.8	51.6	47.1	47.2	36.9	36.5	29.4	31.0	40.2	24.8	26.3	46.3	460.1
1978[1]	32.4	35.4	37.9	35.3	34.7	33.1	31.8	35.9	37.9	44.8	50.1	50.4	457.9
1979[1]	45.6	45.4	56.7	44.1	50.5	57.0	46.2	47.1	55.8	59.0	62.3	58.1	627.8
1980[1]	50.6												

[1] Preliminary. *Source: Bureau of the Census*

Cottonseed and Cottonseed Products

Cottonseed supply for the 1979/80 season which began August 1, 1979, amounted to about 6.3 million tons, up from 23 percent from the previous season, according to the USDA. Beginning stocks were lower, but production was sharply higher than a year earlier. The cottonseed crush for the 1979/80 season was projected by the USDA at 4.5 million tons, up from 4.1 million in 1978/79. But with crushing capacity considered likely to be inadequate to process the large cottonseed crops in the Southwest and the Far West, an extended crushing season or sharp increase in carryover stocks could result. Stocks of cottonseed at crushing plants on December 31, 1979, totaled 3.2 million tons, up sharply from 2.3 million a year earlier but about equal to yearend stocks in 1978.

Cottonseed oil supplies for the 1979/80 marketing year were estimated by the USDA at 1.5 billion pounds, compared with 1.4 billion for the previous season. Domestic use of cotton oil was estimated to approximate the 0.6 billion pounds used in the 1978/79 season as large supplies of soybean and sunflowerseed oils were expected to provide stiff competition for cotton oil. Exports of cotton oil were expected by the USDA to rise above the 0.7 billion pounds shipped in 1978/79 as U.S. cottonseed oil is preferred over soybean oil in Western Europe, South America, and Egypt.

Cottonseed meal supplies for 1978/79 were estimated by the USDA at 2.1 million tons, or 8 percent more than for 1978/79. Domestic use was expected to total about 1.9 million tons, up somewhat from 1978/79, helped by continuing strong demand for use in dairy and beef cattle rations.

World Production of Cottonseed   In Thousands of Metric Tons

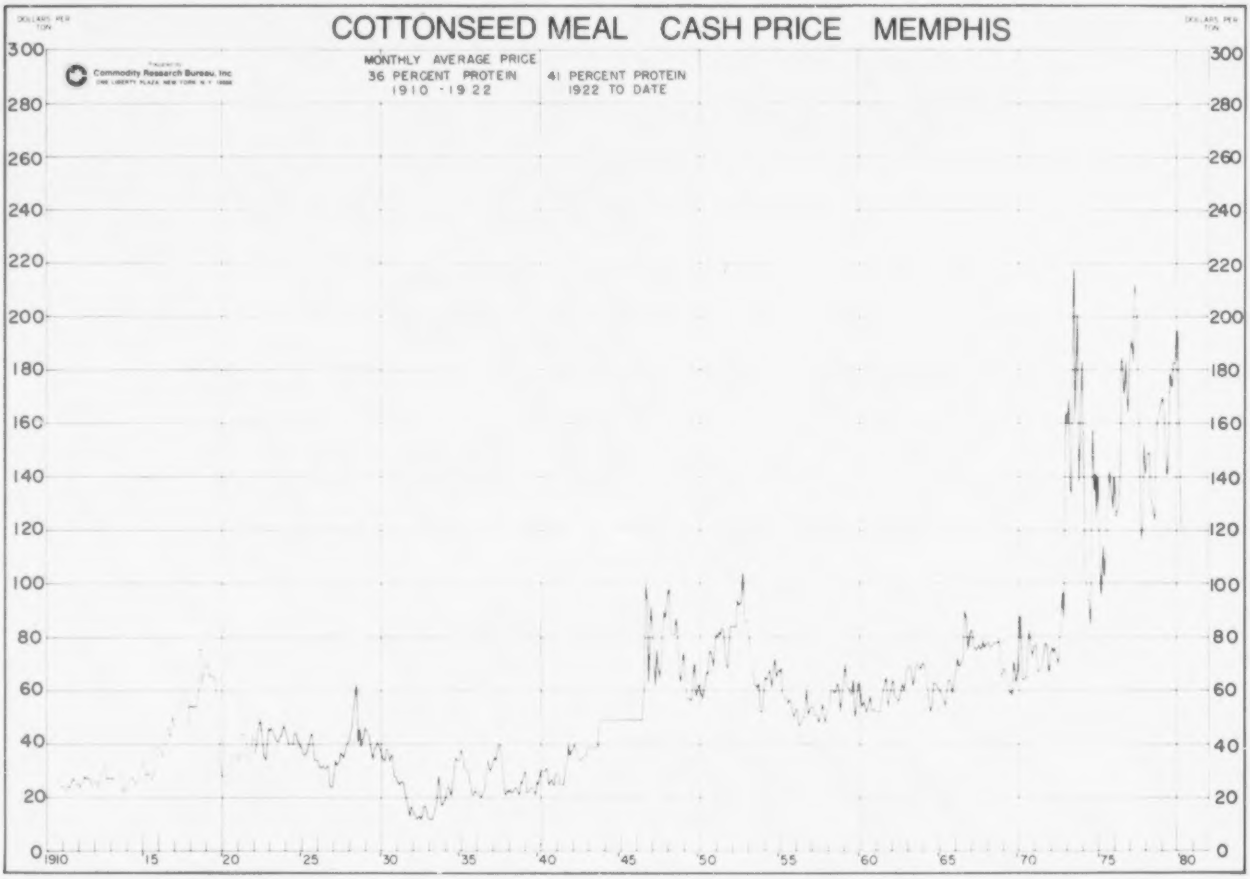
Crop Year	Sudan	Argentina	Brazil	China[2]	Egypt	India	Mexico	Pakistan	Peru	Turkey	Uganda	U.S.S.R.	United States	World Total
1967–8	334	148	1,215	3,510	758	2,312	871	1,056	197	634	126	3,755	2,912	20,442
1968–9	426	228	1,458	3,255	758	2,138	1,067	1,073	180	700	154	3,755	4,209	22,376
1969–0	455	294	1,347	3,130	921	2,160	762	1,093	161	640	172	3,635	3,690	21,517
1970–1	472	170	994	3,300	884	1,920	631	1,105	165	640	152	4,365	3,690	21,324
1971–2	443	183	1,370	3,215	899	2,575	745	1,436	152	835	152	4,405	3,846	23,438
1972–3	351	254	1,304	2,750	895	2,247	779	1,425	135	870	154	4,525	4,892	23,998
1973–4	432	248	1,171	4,355	862	2,400	640	1,264	173	821	115	4,767	4,550	25,330
1974–5	395	349	1,034	4,185	760	2,618	989	1,285	150	956	75	5,212	4,091	25,745
1975–6[1]	200	270	802	4,185	800	2,444	453	1,259	131	736	75	4,686	2,749	23,738
1976–7[3]	300	364	984			2,138				768		4,888	3,764	
1977–8[3]	360	430	840	4,100	690	2,500		1,120		768		4,800	5,010	25,300
1978–9[3]	240	330	1,000	4,340	740	2,800		940				4,940	3,870	24,220
1979–0[3]	300	340	990	4,350	790	2,730		1,340				5,210	5,260	26,050
1980–1														

[1] Preliminary. [2] Including Manchuria. [3] Estimated. *Source: Foreign Agricultural Service, U.S.D.A.*

Salient Statistics of Cottonseed in the United States

Year Begin. Aug.	Farm Value of Production Mil. $	Exports	Seed for Planting	Residual[2]	Crushings	Products Produced: Oil	Meal	Linters[5]	Hulls	Other[3]	Yield Per Ton Crushed: Oil	Meal	Linters	Hulls	Total Value of Pdt's. $ Per Ton
		In Thousands of Short Tons				In Million Pounds					In Pounds				
1967–8	177.4	3	158	90	3,107	1,036	2,900	935	1,468	251	334	934	180	472	93.68
1968–9	234.5	4	156	19	4,363	1,424	3,970	1,306	2,050	458	326	910	189	470	82.12
1969–0	167.3	23	158	41	3,925	1,282	3,670	1,234	1,810	344	327	935	189	461	86.37
1970–1	229.6	39	163	—	3,728	1,211	3,458	1,147	1,744	320	325	927	194	468	94.70
1971–2	240.9	4	189	70	3,960	1,275	3,588	1,145	1,956	379	322	906	182	494	89.74
1972–3	267.1	10	173	57	4,880	1,535	4,448	1,341	2,430	502	314	910	175	497	120.96
1973–4	501.2	49	198	6	4,792	1,551	4,354	1,341	2,346		324	908	176	489	186.89
1974–5	611.2	7	128	74	4,226	1,347	3,770	1,269	2,144		319	892	190	507	189.42
1975–6	312.3	61	190	367	2,952	986	2,630	852	1,546						166.85
1976–7[1]	425.4	26	181	333	3,499	1,141	3,140	989	1,832						189.49
1977–8[4]	388.0	41	180	454	4,313	1,391	3,960								160.33
1978–9[4]	485.6	16	175	291	4,097	1,300	3,700								221.00
1979–0[4]	640.2	50	191	575	4,500	1,400									
1980–1															

[1] Preliminary. [2] Mainly used on farms for feed & fertilizer. [3] Including loss; and also motes, grabbots & hullfibers. [4] Forecast. [5] In THOUSANDS OF RUNNING BALES. *Source: Economic Research Service, U.S.D.A.*



Average Wholesale Price of Cottonseed Meal (41% Protein-Expeller) at Memphis In Dollars Per Ton

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	81.60	76.20	75.70	75.00	76.30	76.50	74.50	76.20	79.20	76.10	76.60	78.10	76.85
1968	77.90	77.60	76.20	77.00	77.60	78.20	78.20	78.00	79.10	66.20	65.60	67.80	74.95
1969	68.40	64.60	62.50	61.70	59.10	59.60	58.00	71.00	67.80	63.40	67.75	78.50	66.00
1970	88.10	74.50	64.40	64.90	65.20	70.20	78.30	82.00	74.50	72.60	75.90	76.70	73.80
1971	77.40	73.60	66.80	68.20	68.80	71.30	74.60	78.00	76.50	66.80	67.80	74.80	72.05
1972	75.70	74.40	75.60	73.60	72.25	70.30	81.40	86.60	96.50	86.60	118.90	164.40	89.69
1973	160.30	168.75	134.75	134.20	207.80	217.50	161.20	201.25	178.75	138.00	160.60	182.50	170.47
1974	159.50	119.40	109.30	93.60	94.25	85.00	133.50	157.50	135.00	141.25	125.00	140.00	124.44
1975	121.60	100.50	95.90	114.00	105.60	116.40	123.25	131.70	141.50	131.60	127.50	139.50	119.93
1976	136.25	125.00	127.50	130.00	143.75	182.30	184.75	170.70	184.40	163.50	171.00	185.60	158.73
1977	190.00	190.60	184.50	204.40	211.90	200.00	163.10	129.00	116.25	121.25	152.60	141.25	167.07
1978	148.00	148.60	149.40	131.25	130.00	127.50	124.40	149.00	162.00	164.00	166.25	167.50	147.33
1979	169.50	161.90	156.90	141.25	143.00	171.00	178.50	173.75	183.10	183.00	183.75	195.00	170.06
1980	167.00	156.25	136.25	120.50									

Source: Economic Research Service, U.S.D.A.

Cottonseed Crushed (Consumption) in the United States In Thousands of Short Tons

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1967–8	138	106	307	497	426	429	342	293	231	148	103	87	3,107
1968–9	73	125	504	523	537	570	447	443	385	336	238	153	4,363
1969–0	119	161	479	501	506	497	453	422	308	220	160	100	3,925
1970–1	84	98	417	477	471	463	439	410	311	238	186	134	3,728
1971–2	139	109	349	458	484	474	425	481	344	298	228	169	3,960
1972–3	196	175	444	529	499	528	480	522	450	426	342	290	4,880
1973–4	275	185	370	532	465	549	463	499	443	424	320	268	4,792
1974–5	235	202	385	431	441	471	434	453	356	331	261	225	4,226
1975–6	225	158	219	291	324	366	336	295	241	203	169	125	2,952
1976–7[1]	115	91	262	403	416	422	414	407	278	266	230	194	3,499
1977–8[1]	187	186	370	459	431	443	403	449	378	341	346	321	4,313
1978–9[1]	311	254	348	423	392	418	404	425	355	325	255	216	4,097
1979–0[1]	257	174	304	394	379	442	388						
1980–1													

[1] Preliminary. *Source: Bureau of Census*

Production of Cottonseed Cake and Meal in the United States In Thousands of Short Tons

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1967–8	65.9	49.1	141.4	229.0	196.8	198.0	161.6	140.2	107.8	73.8	47.8	39.1	1,450.5
1968–9	33.5	54.5	231.5	240.3	246.7	255.3	215.9	200.9	174.9	154.9	106.8	69.6	1,985
1969–0	56.9	74.8	221.5	229.9	240.0	232.5	213.4	197.7	144.2	103.1	74.1	46.6	1,835
1970–1	38.0	45.2	194.1	219.2	218.2	215.8	202.4	192.2	145.3	111.1	86.1	61.1	1,729
1971–2	66.4	50.3	161.2	208.9	219.8	212.7	191.1	216.5	155.9	132.4	101.8	76.6	1,794
1972–3	87.2	78.4	200.4	242.4	228.4	238.7	218.0	236.8	208.0	195.7	158.8	131.0	2,224
1973–4	125.6	83.1	168.6	242.4	211.4	246.7	209.0	224.1	200.3	194.0	146.7	124.6	2,177
1974–5	109.3	95.3	171.9	186.9	194.1	207.3	192.2	203.4	159.0	150.7	117.0	97.6	1,888
1975–6	100.2	70.9	100.2	127.7	141.6	158.2	150.8	133.9	107.6	91.2	76.1	56.2	1,315
1976–7[1]	53.0	41.5	116.6	181.0	187.8	189.2	185.6	183.9	125.0	119.9	100.1	86.6	1,570
1977–8[1]	83.2	84.0	167.9	210.2	199.4	203.2	187.8	206.6	172.5	156.6	158.7	150.1	1,980
1978–9[1]	148.0	221.0	162.4	197.1	184.3	197.5	193.1	201.2	166.5	155.7	122.2	105.8	1,955
1979–0[1]	116.6	79.3	145.9	183.3	173.0	201.0	178.0						
1980–1													

[1] Preliminary. *Source: Bureau of Census*

U.S. Production of Crude Cottonseed Oil In Millions of Pounds

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1967–8	45.4	33.5	101.0	167.1	140.8	143.8	114.1	99.1	76.1	52.6	35.5	27.4	1,036
1968–9	22.9	39.6	162.6	167.7	173.7	186.2	155.8	145.6	127.3	112.4	80.4	50.3	1,425
1969–0	37.2	51.0	156.3	161.4	161.9	160.3	151.3	140.2	102.8	73.2	53.1	33.1	1,282
1970–1	26.6	30.5	134.3	153.4	152.7	151.5	141.2	134.0	103.3	78.8	61.0	43.5	1,211
1971–2	47.0	34.3	111.8	149.0	154.0	151.1	134.9	154.4	110.2	97.7	75.8	54.4	1,275
1972–3	61.2	53.4	139.3	165.5	157.3	163.3	152.0	163.4	141.8	136.3	108.4	92.9	1,304
1973–4	87.8	56.2	120.6	169.8	149.0	176.9	150.2	160.4	144.2	140.0	105.9	90.1	1,551
1974–5	78.0	66.9	122.8	138.2	139.1	147.6	137.5	143.4	111.6	105.8	84.1	72.3	1,347
1975–6	76.1	56.1	76.3	101.0	103.2	118.1	111.2	100.2	80.0	67.3	56.1	40.3	986
1976–7	38.0	28.2	80.1	129.2	135.6	135.0	134.3	134.4	91.1	89.3	78.5	67.3	1,141
1977–8[1]	63.0	60.1	115.1	146.3	140.2	141.6	129.5	141.8	122.1	109.2	113.9	107.8	1,391
1978–9[1]	103.5	82.0	108.8	134.0	123.5	134.4	128.0	135.3	115.0	103.7	86.3	73.8	1,328
1979–0[1]	85.5	53.5	98.6	126.5	119.9	142.8	125.7						
1980–1													

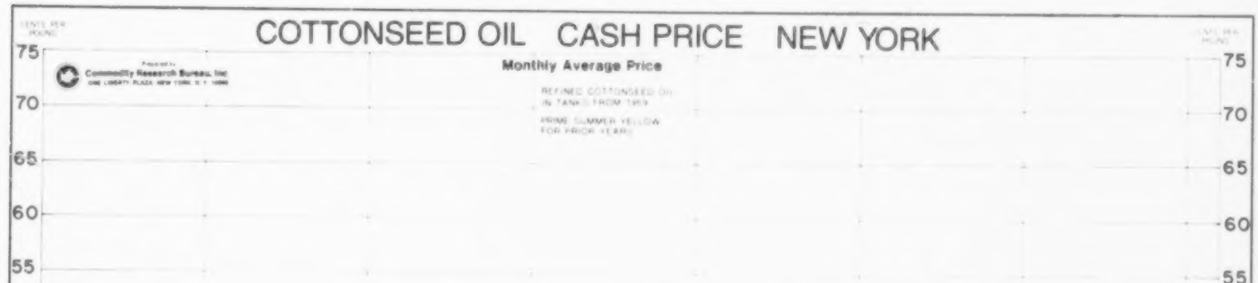
[1] Preliminary. *Source: Bureau of Census*

COTTONSEED AND COTTONSEED PRODUCTS

Cottonseed Oil Prices, Refined, Tanks at N.Y. In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	14.9	15.0	14.9	14.6	14.9	15.0	14.5	14.4	14.4	13.8	13.7	14.3	14.5
1968	15.3	15.5	15.6	16.0	17.5	18.0	18.0	18.6	16.2	15.5	14.6	15.9	16.4
1969	14.5	15.4	15.2	15.6	14.6	15.9	14.5	14.8	13.8	14.8	14.5	15.8	15.0
1970	16.2	16.0	17.0	17.9	18.3	18.5	18.2	17.6	16.5	17.6	18.0	18.2	17.5
1971	19.4	20.2	20.1	19.4	19.1	19.3	20.3	20.9	20.0	18.7	18.5	17.8	19.5
1972	17.1	16.5	16.[illegible]	17.0	16.7	16.3	15.8	15.4	15.0	14.4	14.8	14.8	15.8
1973	15.2	17.6	18.6	20.0	21.5	23.2	24.0	35.5	27.1	26.7	23.3	28.8	23.5
1974	31.9	37.6	36.9	39.0	40.1	40.9	43.5	50.0	44.1	49.7	46.1	43.2	41.9
1975	38.7	33.8	32.9	32.1	27.8	28.6	35.0	37.6	35.9	32.4	28.9	28.2	32.7
1976	30.0	32.1	32.5	30.0	26.1	26.9	31.0	29.3	31.5	N.A.	29.8	28.7	29.7
1977	28.4	28.9	32.0	35.3	36.4	35.5	30.1	28.0	25.8	26.3	28.3	31.0	30.5
1978	29.9	29.5	[illegible]	33.1	34.6	33.6	34.4	36.1	34.5	34.6	33.7	34.1	33.3
1979	33.9	37.5	[illegible]	39.8	38.1	39.0	40.8	40.0	40.0	36.7	34.8	34.8	37.9
1980	30.3	32.4	29.8										

Source: Bureau of Labor Statistics



Supply & Distribution of Cottonseed Oil in the United States In Millions of Pounds

Crop Year Beginning August	Production From Dom. Materials	Imports For Consumption	Stocks Aug. 1	Total Supply	Exports	Shipments to U.S. Terr.	Domestic Disappearance	Utilization							
								Food Uses					Nonfood Uses		
								Shortening	Margarine	Salad & Cooking Oils	Other	Total	Foots & Loss	Other	Total
1967	1,036	5	298	1,338	— 52—		1,129	270	74	682	35	1,061	59	9	68
1968	1,425	7	158	1,590	—134—		1,017	222	68	614	42	946	64	6	70
1969	1,282	—	440	1,722	—438—		1,069	296	73	576	52	997	69	9	78
1970	1,211	—	214	1,425	—359—		898	203	65	501	48	817	70	11	81
1971	1,275	—	167	1,442	—422—		815	166	64	445	43	718	79	18	97
1972	1,535	—	204	1,739	—588—		961	192	64	544	41	841	104	16	120
1973	1,551	—	190	1,741	—572—		1,034	219	64	610	31	924	101	9	110
1974	1,347	—	135	1,482	—674—		662	164	48	457	25	694	94	8	102
1975	986	—	146	1,132	—535—		440	130	49	383	16	578	65	8	73
1976	1,141	—	157	1,298	—611—		534	149	47	394	12	602	51	9	60
1977[1]	1,391	—	153	1,544	—744—		693								
1978[2]	1,250	—	107	1,357	—600—		650								
1979[2]		—													
1980															

[1] Preliminary. [2] Estimate. *Source: Economic Research Service, U.S.D.A.*

United States Production of Refined Cottonseed Oil In Millions of Pounds

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1967–8	47.7	32.9	55.1	111.6	123.7	136.6	106.5	115.7	77.7	71.4	50.3	34.4	964
1968–9	29.4	30.0	99.3	124.8	125.4	144.3	130.4	119.8	119.9	109.4	94.0	72.2	1,199
1969–0	54.9	61.0	106.2	110.9	129.0	120.9	125.1	129.9	96.6	77.7	67.6	42.5	1,122
1970–1	27.1	27.6	71.6	116.0	116.6	108.5	108.6	119.8	77.2	80.4	73.2	44.9	972
1971–2	51.2	44.8	60.9	102.9	113.3	104.0	90.8	118.3	98.3	98.2	88.8	61.3	1,033
1972–3	74.6	41.8	95.4	121.9	140.1	124.9	135.0	140.7	128.9	126.0	99.1	76.8	1,305
1973–4	102.7	66.6	89.0	117.2	123.3	134.9	118.2	125.5	129.3	117.4	90.2	83.2	1,298
1974–5	88.5	63.5	81.8	113.0	117.2	124.4	125.5	117.0	109.0	102.5	93.0	74.0	1,209
1975–6	68.0	73.1	53.6	75.5	97.1	99.6	89.6	91.6	76.2	70.9	60.4	52.7	908
1976–7[1]	48.5	33.4	37.7	73.0	86.2	95.4	98.0	103.5	79.2	82.0	73.3	55.8	866
1977–8[1]	57.8	48.7	77.8	111.4	112.8	111.1	198.2	114.7	102.7	91.3	95.2	91.8	1,214
1978–9[1]	117.5	84.7	83.7	116.0	100.4	118.8	113.1	126.4	108.2	97.9	78.7	78.7	1,224
1979–0[1]	92.7	56.7	69.6	97.0	103.0	119.1	102.7						
1980–1													

[1] Preliminary. *Source: Bureau of Census*

U.S. Stocks of Cottonseed Oil (Crude & Refined) at End of Month In Millions of Pounds

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1968–9	118.7	98.7	153.2	213.5	272.7	342.4	370.0	430.0	460.8	466.2	467.6	439.7
1969–0	418.0	376.8	372.8	383.9	398.6	371.7	394.0	351.3	325.1	297.7	252.2	213.9
1970–1	158.1	121.5	140.1	163.5	184.3	202.3	224.6	246.9	265.7	279.7	224.6	167.3
1971–2	142.9	93.8	130.0	159.5	188.3	239.4	277.3	295.0	294.8	266.0	239.7	203.9
1972–3	137.9	114.2	142.5	161.5	187.4	215.3	239.0	212.7	220.6	232.5	215.8	189.9
1973–4	181.5	114.3	124.5	161.6	157.9	202.4	180.9	198.8	198.9	190.4	175.5	135.3
1974–5	121.4	109.8	123.2	166.9	177.4	197.6	210.2	188.1	208.0	173.1	164.0	146.2
1975–6	126.4	136.1	125.6	153.1	160.3	179.6	192.1	217.1	198.0	204.0	153.6	157.5
1976–7[1]	135.9	104.9	115.5	167.2	191.6	207.7	233.0	237.5	226.9	214.0	182.5	153.0
1977–8[1]	122.2	79.4	91.5	112.4	132.7	151.4	156.4	176.4	180.4	154.6	130.7	106.7
1978–9[1]	102.3	84.8	101.4	123.0	127.1	152.2	152.9	141.0	143.1	141.0	139.5	116.9
1979–0[1]	117.2	86.4	93.1	129.0	144.3	173.2	198.9					
1980–1												

[1] Preliminary. *Source: Bureau of Census*

COTTONSEED AND COTTONSEED PRODUCTS

Average Price of Crude Cottonseed Oil, F.O.B. Southeastern Mills (Tank Cars) In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	12.1	12.2	12.1	11.9	12.1	12.2	11.9	11.9	12.0	11.2	11.1	11.5	11.8
1968	12.1	12.9	12.9	13.0	14.7	15.3	15.4	16.0	12.7	10.5	10.7	10.7	13.1
1969	10.6	11.0	11.2	11.3	11.5	11.8	11.4	11.0	10.1	10.2	10.9	10.4	11.0
1970	10.9	12.1	13.2	14.0	14.3	14.4	14.3	14.1	12.9	13.4	14.1	14.1	13.5
1971	14.5	16.1	16.1	15.6	15.3	15.3	15.4	16.5	16.1	14.4	13.9	13.9	15.3
1972	13.4	13.5	12.6	12.4	12.1	12.4	11.9	11.4	10.1	10.1	10.4	10.6	11.8
1973	10.6	12.9	14.6	14.6	14.6	14.6	14.6	14.6	22.5	22.0	19.0	27.0	19.8
1974	29.0	33.5	31.5	35.0	37.0	36.5	39.0	47.0	39.5	45.0	46.0	37.0	38.0
1975	36.5	32.0	28.0	27.0	23.0	23.0	29.0	32.0	28.5	26.5	23.5	22.0	27.6
1976	24.0	26.0	26.5	24.0	20.5	21.5	26.5	23.0	26.0	22.5	24.0	21.5	23.9
1977	22.0	23.0	27.0	30.0	31.0	31.0	23.0	22.0	19.0	20.0	20.5	23.5	24.3
1978	23.0	22.3	25.0	25.0	27.0	26.5	27.5	29.0	34.0	28.5	27.3	27.5	26.9
1979	27.3	32.0	32.5	32.0	32.0	32.0	32.0	32.0	32.9	29.7	27.6	26.2	30.7
1980	24.3												

Source: Economic Research Service, U.S.D.A.

U.S. Exports of Cottonseed Oil (Crude & Refined) In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	3.7	4.6	8.7	25.4	11.6	2.0	5.0	2.6	3.0	5.6	4.7	3.4	72.1
1968	4.5	2.0	3.6	8.4	.8	5.4	7.4	.8	3.3	3.9	12.0	9.5	61.7
1969	6.9	20.7	9.5	14.9	12.8	4.9	23.2	6.9	4.7	43.4	56.1	42.6	246.5
1970	53.0	52.2	56.2	24.0	61.0	12.2	17.5	8.8	17.8	12.0	18.6	36.7	369.8
1971	43.5	39.2	40.3	18.2	21.4	31.7	69.8	14.3	26.2	3.1	36.3	58.5	400.7
1972	23.1	47.4	50.4	47.8	30.6	49.7	33.5	58.3	13.0	18.9	70.6	32.2	475.4
1973	57.9	56.6	78.7	40.9	63.7	55.3	39.0	23.8	43.2	22.6	24.9	38.2	545.0
1974	28.8	79.0	52.3	56.3	94.2	52.2	49.5	36.7	24.2	24.1	33.8	75.1	606.1
1975	78.4	67.3	96.6	56.8	92.6	17.8	69.7	43.7	28.9	21.3	46.7	36.7	656.5
1976	76.2	49.3	51.8	42.8	65.6	47.9	23.7	24.4	13.4	33.6	15.7	76.6	520.9
1977[1]	50.4	80.5	104.2	72.4	23.0	58.3	57.4	52.5	65.5	35.4	64.2	67.7	731.2
1978[1]	50.6	68.2	84.9	61.6	59.8	63.5	70.2	50.0	82.3	25.9	29.2	82.5	728.8
1979[1]	56.7	71.2	89.9	51.3	52.5	63.1	63.8	18.1	56.6	34.0	48.9	27.0	633.0
1980[1]	34.8	28.1											

[1] Preliminary. *Source: Dept. of Commerce*

U.S. Consumption of Cottonseed Oil in End Products[1] In Millions of Pounds

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1967–8	93.6	75.2	88.7	101.1	104.2	80.4	88.4	101.3	84.4	101.7	94.6	73.4	1,087
1968–9[2]	63.0	59.2	77.3	68.9	70.3	70.3	66.1	66.0	74.7	69.7	88.6	62.4	836.5
1969–0	64.9	64.9	82.9	83.5	95.7	81.4	84.5	90.9	90.8	78.2	80.6	63.0	961.3
1970–1	63.0	65.8	77.3	79.6	76.9	67.8	73.6	69.4	56.1	61.2	70.9	50.1	811.7
1971–2	57.8	50.8	52.9	57.4	60.5	56.1	52.3	70.0	51.6	66.5	66.1	58.0	700.0
1972–3	74.9	55.0	70.1	73.1	66.8	63.7	58.4	91.8	76.7	92.2	84.1	72.3	879.1
1973–4	69.4	57.2	73.6	78.5	88.5	87.2	77.8	83.0	78.7	77.8	61.8	74.5	908.0
1974–5	57.2	52.5	58.3	62.1	61.5	60.5	57.9	58.1	56.0	66.7	53.8	56.8	698.4
1975–6	49.6	46.7	51.0	50.0	53.6	45.0	48.3	52.1	48.3	43.3	58.0	39.3	585.2
1976–7	51.2	45.0	43.7	56.6	48.0	47.9	47.8	55.7	56.7	56.1	56.2	45.9	610.8
1977–8	51.8	48.6	47.5	52.6	58.5	50.0	52.3	55.6	55.7	63.4	65.9	62.3	664.2
1978–9[3]	60.0	57.3	55.6	64.6	54.6	55.9	57.0	60.9	48.9	64.8	45.9	41.0	666.5
1979–0[3]	53.9	43.1	44.9	50.8	51.1	55.6	56.3						
1980–1													

[1] Includes small amount exported but does not include imported oil. [2] Data prior to Aug. 1968 are for APPARENT DISAPPEARANCE OF REFINED C. S. OIL. [3] Preliminary. *Source: Bureau of the Census*

Currencies

Despite a considerable improvement in the U.S. balance of payments accounts in 1979, the dollar's foreign exchange value declined against most major currencies, improving in value only against the Japanese yen, during the summer and fall of 1979. On October 6, 1979, the Federal Reserve Board announced a series of policy changes (see interest rates story on page 189) to "help curb speculative excesses in financial, foreign exchange, and commodity markets and thereby serve to dampen inflationary forces." The measures allowed the dollar to rally briefly, and the Federal Reserve stepped up repayment of swap debt (foreign currencies borrowed to buy dollars) through purchases of foreign currencies from correspondents.

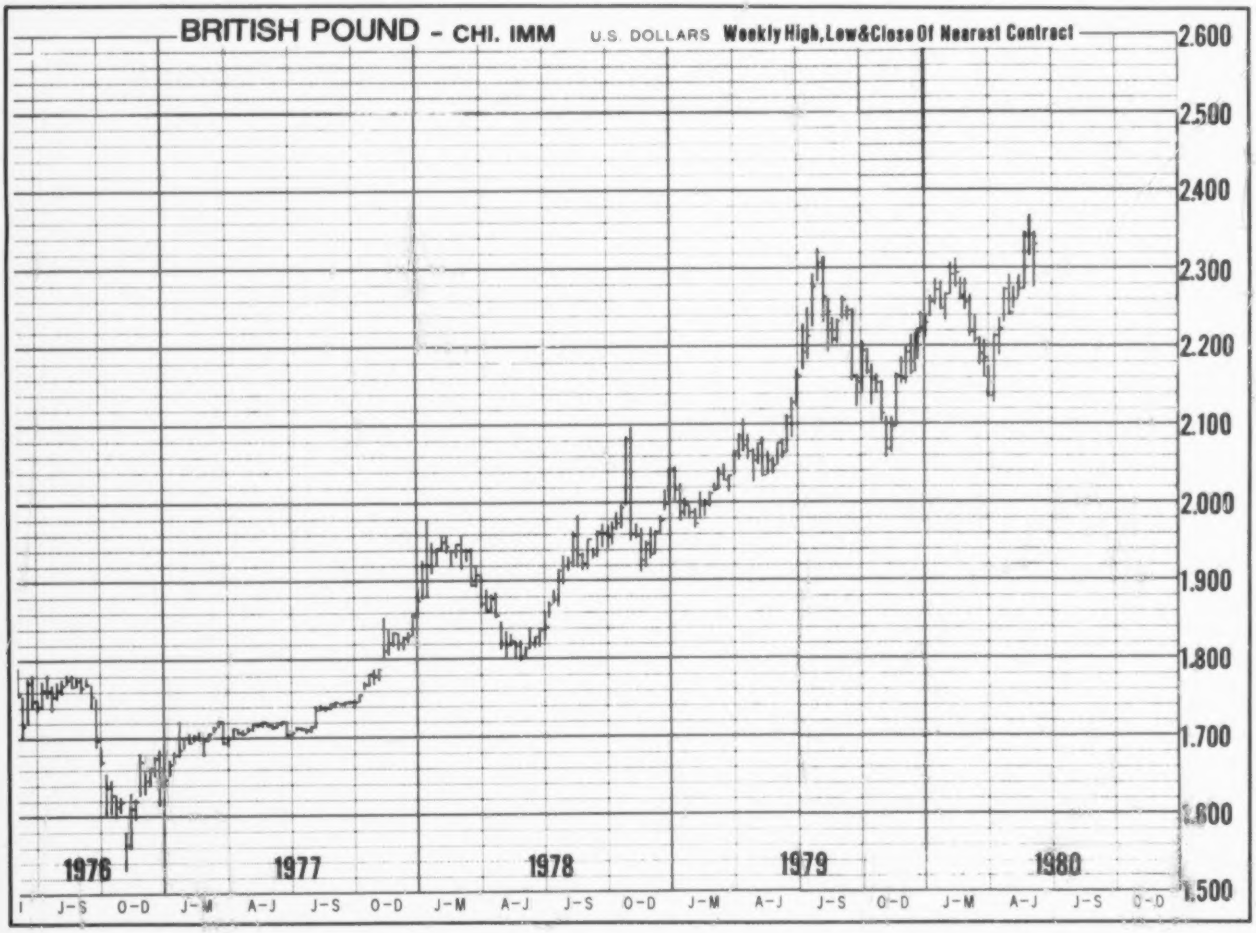
The dollar resumed its decline during the last two months of 1979 as a result of further OPEC oil price increases, the seizure of the U.S. embassy in Iran and the taking of 50 American hostages, and the Soviet invasion of Afghanistan. However, the rising interest rates on dollar-denominated assets resulting from the Federal Reserve's resolve to control inflation created growing incentive for foreign investors to put funds into those assets. Their purchases of dollars on foreign exchange markets to buy dollar assets led to a sharp strengthening of the dollar vis-a-vis major currencies. During the first quarter of 1980, the dollar appreciated 12.2 percent against the Swiss franc, 9.7 percent against the German mark, and 4.4 percent against the yen, according to the Federal Reserve Bank of Chicago.

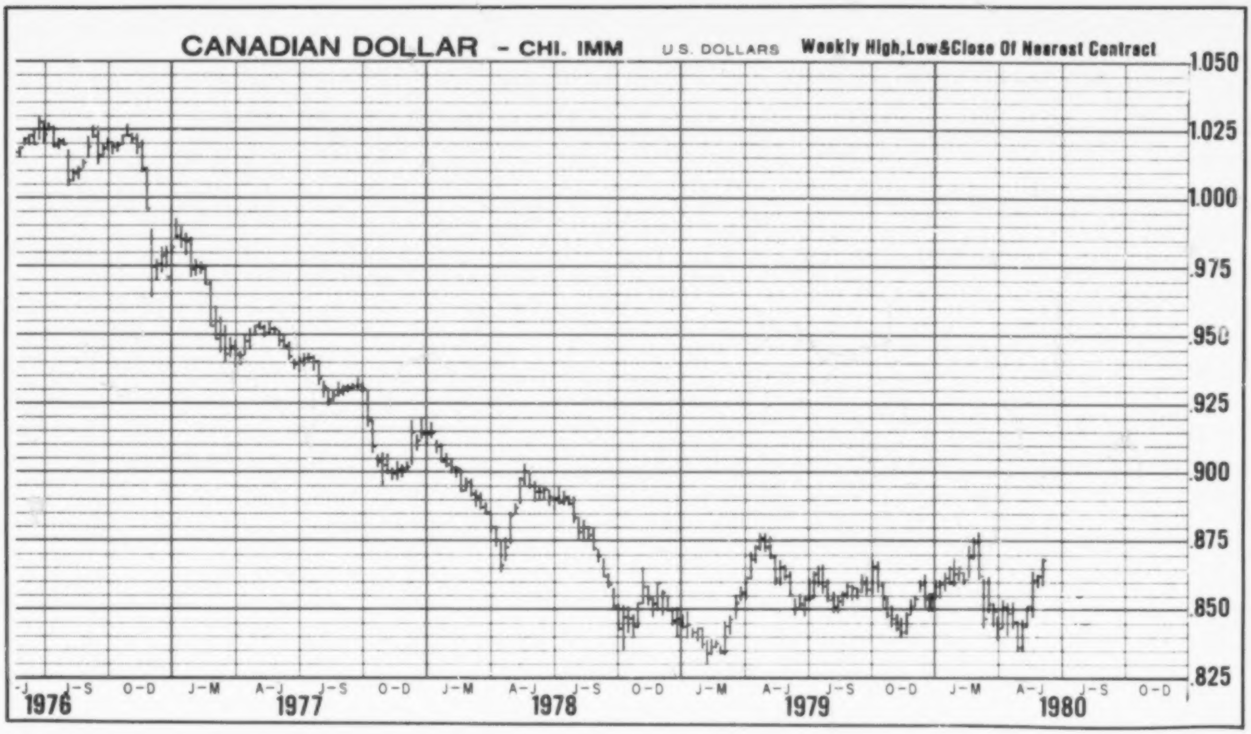
Perhaps the leading factor in the weakening of major currencies was the sharp rise in the domestic-currency cost of imported oil, the world price of which is denominated in dollars.

U.S. liabilities to foreigners showed a net decline in 1979. U.S. claims on foreigners increased $63.4 billion, while liabilities to foreigners increased $33.9 billion. U.S. liabilities to foreign official institutions declined $15.2 billion in 1979, primarily as foreign central banks sold U.S. government securities to acquire dollars to purchase their currencies as support measures in the foreign exchange markets.

Futures Markets

The International Monetary Market of the Chicago Mercantile Exchange lists futures contracts in the British pound, Canadian dollar, Deutsche mark, Dutch guilder, French franc, Japanese yen, Swiss franc, and Mexican peso. The New York Mercantile Exchange lists the British pound, Canadian dollar, Deutsche mark, Japanese yen and Swiss franc.




CANADIAN DOLLAR - CHI. IMM
U.S. DOLLARS
Weekly High, Low&Close Of Nearest Contract
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1.025
1.000
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.950
.925
.900
.875
.850
.825
J
J-S
O-D
J-M
A-J
J-S
O-D
J-M
A-J
J-S
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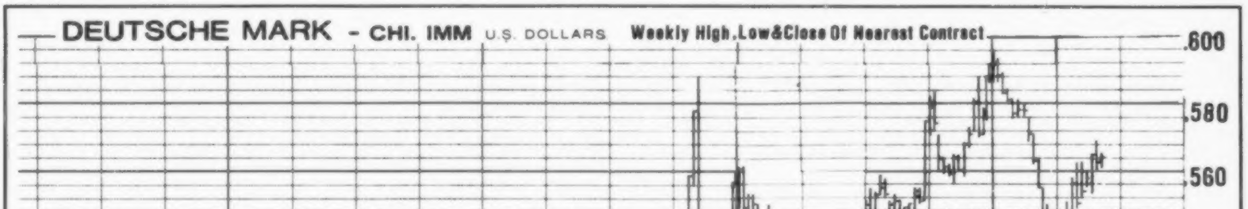
O-D
1976
1977
1978
1979
1980


DEUTSCHE MARK - CHI. IMM
U.S. DOLLARS
Weekly High, Low&Close Of Nearest Contract
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.580
.560
.540
.520
.500
.480
.460
.440
.420
.400
.380
1976
1977
1978
1979
1980
A-J
J-S
O-D
J-M
A-J
J-S
O-D
J-M
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J-S
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O-D
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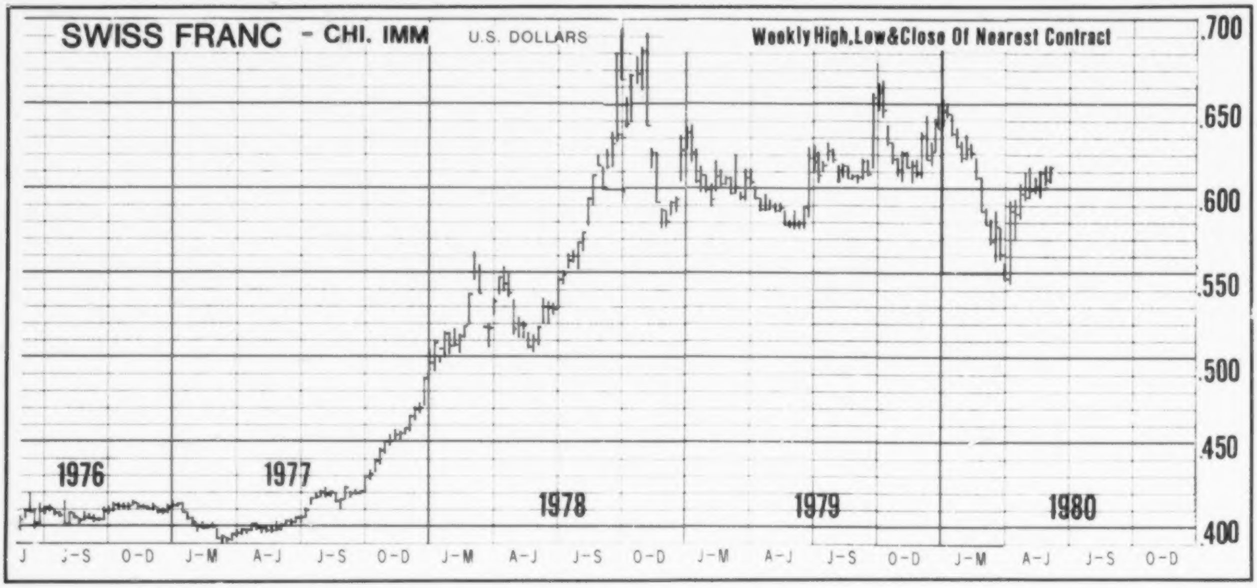
J-S


SWISS FRANC - CHI. IMM
U.S. DOLLARS
Weekly High,Low&Close Of Nearest Contract
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.400
1976
1977
1978
1979
1980
J
J-S
O-D
J-M
A-J
J-S
O-D
J-M
A-J
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O-D
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J-M
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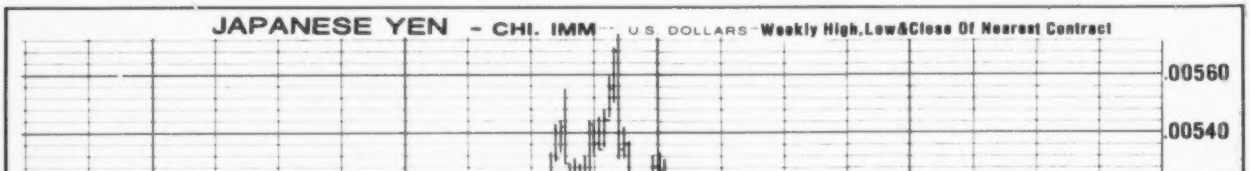
J-S
O-D


JAPANESE YEN - CHI. IMM
U.S. DOLLARS
Weekly High,Low&Close Of Nearest Contract
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.00540
.00520
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1977
1978
1979
1980
J-S
O-D
J-M
A-J
J-S
O-D
J-M
A-J
J-S
O-D
J-M
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J-S
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J-M
A-J
J-S
O-D

Distilled Spirits

Salient Statistics of Distilled Spirits in the United States In Thousands of Gallons[1]

Fiscal Year[4] Ending June 30	Whiskey					All Distilled Spirits				
	Production	Tax-Paid Withdrawals	Imports For Consumption[2]	Stocks End of Period	Bottled For Consumption	Production	Tax-Paid Withdrawals	Imports For Consumption[2]	Stocks End of Period	Bottled For Consumption
1967	132,192	94,823	59,705	855,374	174,003	873,010	221,246	68,169	1,116,442	271,655
1968	163,878	96,863	66,500	888,106	182,130	905,459	227,703	75,452	1,149,948	284,543
1969	179,943	100,321	74,290	933,746	188,961	985,641	240,343	87,080	1,166,100	300,537
1970	160,039	111,796	75,590	959,727	192,331	917,457	256,342	90,890	1,197,001	312,074
1971	127,220	111,972	89,290	960,509	186,050	759,251	256,999	102,140	1,162,398	310,056
1972	126,274	120,794	87,690	958,386	195,819	764,351	281,584	100,160	1,107,557	335,482
1973	111,974	135,937	92,300	926,112	188,245	859,152	282,840	107,280	1,060,634	336,813
1974	92,599	138,105	93,920	875,742	184,296	821,602	292,428	110,980	1,006,206	348,776
1975	49,958	136,950	94,980	779,762	181,683	717,550	295,445	113,460	950,044	356,916
1976	79,178	134,773	92,070	722,884	178,701	667,682	304,491	112,710	873,631	369,346
1977[4]	81,828	125,878	91,150	678,680	140,077	656,128		112,990	737,260	360,697
1978[3]	79,150[2]	132,540[2]	101,890	624,890	151,075	676,625	236,290[2]	128,600	683,360	443,750[2]
1979[3]	101,270[2]	127,050[2]	95,400	608,060			233,300[2]	123,650	670,360	410,000[2]

[1] Production, withdrawals, and stocks are tax gallons; imports are proof gallons; consumption are wine gallons. [2] Data are for CALENDAR YEARS. [3] Preliminary. [4] Fiscal year ending Sept. 30 starting 1977.
Sources: Internal Revenue Service; Department of Commerce

Distilled Spirits Bottled for Consumption in the U.S. In Millions of Wine Gallons

Fis. Yr. End. June 30[1]	Whiskey	Brandy	Rum	Gin	Cordials & Liqueurs	Vodka	Alcohol & Spirits	Other Spirits	Total
1967	174.003	9.351	1.867	32.793	16.495	36.474	.108	.564	271.655
1968	182.130	10.317	2.090	32.479	17.196	39.543	.139	.651	284.543
1969	188.960	11.071	2.337	33.857	20.031	43.211	.131	.938	300.537
1970	192.331	11.735	2.533	35.780	20.699	47.843	.123	1.030	312.074
1971	186.050	11.913	2.864	35.042	20.555	52.407	.148	1.078	310.056
1972	195.819	13.053	3.378	38.009	23.311	60.116	.146	1.649	335.482
1973	188.245	13.908	4.693	35.890	25.095	66.494	.144	2.344	336.813
1974	184.296	13.855	5.495	37.319	28.391	75.285	.155	3.979	348.776
1975	181.683	13.483	6.791	37.169	30.416	82.159	.180	5.035	356.916
1976	178.701	14.150	8.789	39.242	34.189	88.459	.296	5.519	369.346
1977[1]	201.315	14.640	11.157	37.055	26.661	89.833			360.697
1978	216.145	14.423	13.952	39.916	32.535	94.116			389.552
1979									

A "wine gallon" is a U.S. gallon of liquid measure equivalent to the volume of 231 cubic inches. [1] Fiscal year ending Sept. 30 starting 1977. *Source: Internal Revenue Service*

Grains Used in Production of Alcohol, Dist. Spirits, & Ferm. Malt Liquors in U.S. In Thousands of Bushels

Year Begin. July 1	Corn and Products			Barley and Malt			Wheat				
	Alcohol & Distilled Spirits	Fermented Malt Liquors[3]	Total	Alcohol & Distilled Spirits	Fermented Malt Liquors	Total	Alcohol & Distilled Spirits	Fermented Malt Liquors	Total	Rye[2]	Sorghum Grains
1964–5	27,704	39,467	67,171	6,181	88,692	94,873	68	9	77	3,801	3,493
1965–6	29,830	40,688	70,518	7,064	90,340	97,404	66	8	74	4,393	3,062
1966–7	32,627	40,658	73,285	6,812	96,204	103,016			75	4,663	2,786
1967–8	33,980	40,247	74,227	7,101	97,350	104,451				4,744	2,809
1968–9	33,024	41,537	74,561	6,968	100,956	107,924				4,681	3,372
1969–0	31,202	43,121	74,333	6,669	109,512	116,181				4,279	2,963
1970–1	24,030	45,251	69,281	4,338	108,201	113,039				3,435	3,716
1971–2	24,848	45,441	70,289	4,496	113,209	117,705				3,066	4,750
1972–3	29,498	45,257	74,755	4,193	114,608	118,801					2,025
1973–4[1]	33,095	46,978	80,073	3,659	121,892	125,551					2,515
1974–5											

[1] Preliminary. [2] Used principally for distilled spirits. [3] Principally corn grits & flakes. *Source: Internal Revenue Service*

Eggs

Egg production increased 2.9 percent in 1979 to 5,769 million dozen, the largest output since the 1971 record of 5,846 million dozen and the third largest ever. The gain from the 1978 level of 5,607 million resulted from a 2.3 percent increase in the laying flock and a 0.6 percent increase in output per layer, according to the USDA.

The hatch of egg-type chicks in the first half of 1979 for July–December replacement pullets was up 5 percent from the 1978 level because of favorable returns to table-egg producers during the January–June period. But total layer numbers would not have increased as rapidly without 1979's buildup in hatchery supply flocks for broiler production. From July 1978 to June 1979, more than 5 million additional pullet chicks were placed for hatchery supply flocks.

U.S. per capita consumption for 1979 was estimated at 283 eggs, five more than in 1978 and 11 more than in 1977.

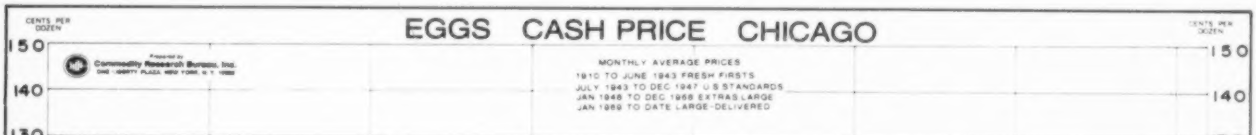
Egg breakings declined during the first half of 1979 because of relatively strong shell egg markets. But eggs moving into breaking channels increased about 6 percent from 1978 levels during the second half of the year as the shell egg market weakened in the summer and early fall and stocks of frozen egg products were drawn down. A total of 701 million dozen were broken under federal inspection, up from 686 million dozen in 1978. Liquid egg production for immediate consumption and for processing rose about 2 percent to 415 million pounds. But frozen egg production slipped about 4 percent to 332 million pounds. Dried egg production totaled 80 million pounds, up 5 million from 1978 output.

Exports of shell eggs and egg products declined about 20 percent to 78 million dozen (shell equivalent) in 1979. Shipments of shell eggs and products to American territories increased slightly to 23 million dozen.

Prices for cartoned Grade A large eggs averaged 61.7 cents a dozen in New York in 1979, about 6.5 cents more than in 1978. But most of the increase was in the first half of the year, when prices were up 11 cents a dozen. Prices weakened during the summer and early fall. Prices dropped sharply during January 1980, averaging 62.8 cents, about 13 cents less than December's seasonally strong 75.3 cents. Producers culled older birds more heavily in early 1980 than they did a year earlier, and hatchery activity was expected to slow as poor producer profit margins were likely to curb production increases later in the year. But the higher rate of lay of the younger laying flock was expected to keep production above 1979 levels, and prices were expected to be off sharply from 1978 averages. Large supplies of high-protein foods, particularly increased pork production, were also expected to weigh on egg prices.

The Futures Market

Egg futures are traded on the Chicago Mercantile Exchange.



EGGS

Salient Egg Statistics in the United States

Year	Hens & Pullets		Rate of Lay Per Layer		Eggs				Gross Income[5] Billion $	Total Egg Prod.[6]	Imports[7]	Exports[8] & Shipments	Used for Hatching	Civilian Consumption	
	On Farms Jan. 1[10]	Avg.[9] Number During Year	On Farms Jan. 1[2]	During Year[3]	Farm Prod.	Price Per Dz.	Consumed[4] on Farms	Sold						Total	Per Capita Eggs
	Millions		Number		Billions					Million Dozen					
1972	321.4	304.5		227	69.2	30.9	.69	68.53	1.78	5,742	1	56	391	5,237	304
1973	300.7	290.6		227	66.0	52.5	.63	65.41	2.89	5,502	13	49	392	5,051	291
1974	296.6	284.7		230	65.6	53.2	.58	65.04	2.91	5,461	13	57	366	5,005	286
1975	286.0	278.1		232	64.6	52.4	.54	64.09	2.82	5,382	5	62	372	4,924	280
1976	279.9	274.1		235	64.5	58.3	.50	64.01	3.13	5,377	3	65	409	4,868	274
1977	280.0	274.9		235	64.6	55.6	.48	64.13	2.99	5,407	14	91	429	4,862	272
1978[1]	287.6	281.1		238	67.1	52.7	.46	66.58	2.92	5,607	12	120	463	5,010	278
1979[1]	291.2	288		240	69.1	57.6				5,769	10	104	493	5,141	283
1980[1]	295.5														

[1] Preliminary. [2] Number of eggs produced during the year divided by number of hens & pullets on hand Jan. 1. [3] Number of eggs produced during the year divided by the average number of hens & pullets of laying age on hand during the year. [4] Consumed in households of farm producers. [5] Value of sales plus value of eggs consumed in households of producers. [6] Farm production, plus nonfarm output estimated at 10% of farm through 1954; thereafter, 1 percentage point less each year. [7] Shell-egg equivalent of eggs and egg products. [8] Shell eggs & shell equivalent of frozen & dried egg products. [9] Average number of layers on farms during the year. [10] Of laying age. *Source: Agricultural Marketing Service, U.S.D.A.*

Egg Production in the United States In Millions of Eggs

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total[2]
1972	6,080	5,717	6,154	5,905	5,977	5,699	5,822	5,759	5,519	5,692	5,517	5,696	69,219
1973	5,706	5,196	5,807	5,649	5,777	5,451	5,500	5,458	5,323	5,561	5,455	5,685	66,039
1974	5,691	5,203	5,810	5,596	5,718	5,454	5,520	5,442	5,237	5,422	5,305	5,529	65,620
1975	5,560	5,001	5,514	5,301	5,425	5,230	5,387	5,402	5,252	5,448	5,313	5,506	64,626
1976	5,511	5,171	5,543	5,327	5,449	5,269	5,404	5,383	5,229	5,422	5,297	5,515	64,511
1977	5,447	4,917	5,546	5,361	5,478	5,213	5,310	5,369	5,318	5,592	5,534	5,803	64,600
1978[1]	5,743	5,106	5,700	5,559	5,723	5,460	5,541	5,574	5,495	5,751	5,685	5,941	67,140
1979[1]	5,886	5,283	5,903	5,719	5,853	5,636	5,787	5,798	5,642	5,870	5,789	6,061	69,107
1980[1]	6,035	5,586	5,949	5,699									

[1] Preliminary. [2] Dec. 1 previous year thru Nov. 30. *Source: Crop Reporting Board, U.S.D.A.*

Egg-Type Chicks Hatched by Commercial Hatcheries in the United States In Millions

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1972	39.1	41.6	48.0	53.0	52.0	42.9	38.6	37.5	36.0	37.9	32.4	32.4	491.4
1973	38.6	41.5	52.0	54.0	55.4	44.7	41.2	42.5	42.9	46.0	40.3	35.3	534.3
1974	35.1	37.7	46.2	54.6	52.1	43.4	36.7	34.9	32.1	35.5	33.0	32.2	473.4
1975	34.8	36.6	45.5	47.4	48.0	40.9	38.1	34.9	33.9	34.8	28.4	30.7	453.8
1976	35.8	39.6	50.1	51.5	48.2	42.4	38.6	38.3	37.7	37.0	36.3	36.6	492.2
1977	40.3	40.9	51.3	55.1	52.5	44.7	37.4	37.8	37.4	37.6	34.5	32.5	501.9
1978	36.9	36.9	46.8	50.9	53.7	45.6	35.8	38.6	37.2	37.7	35.6	35.9	491.6
1979[1]	39.5	38.5	50.1	52.4	55.9	47.8	42.8	41.9	36.6	39.5	37.5	36.4	519.0
1980[1]	38.1	42.0	45.9	46.6									

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Average Wholesale Prices of Shell Eggs (Large) Delivered; Chicago In Cents Per Dozen

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1971	37.2	33.2	33.1	33.0	29.1	29.8	33.0	34.5	32.9	32.4	33.5	37.0	33.2
1972	30.0	28.8	32.8	29.5	28.0	29.4	33.0	32.7	37.3	34.4	40.2	49.8	33.8
1973	55.9	43.1	49.9	51.9	50.5	58.2	65.1	76.9	70.0	64.6	67.8	72.8	61.0
1974	75.0	69.5	62.1	54.2	44.5	44.6	50.5	57.5	64.6	63.2	63.0	68.8	59.8
1975	63.7	57.4	60.7	51.6	51.3	51.7	53.9	59.7	63.3	59.1	66.8	73.8	59.4
1976	70.9	64.2	59.5	58.6	60.7	60.9	65.4	70.6	72.8	70.6	76.7	82.3	67.8
1977	78.7	75.6	67.5	62.5	55.7	57.0	62.8	59.3	59.3	53.7	55.1	61.5	62.4
1978	55.2	62.8	62.0	57.0	52.0	49.3	61.2	61.8	63.2	60.8	67.2	71.7	60.3
1979	71.3	67.7	73.5	68.7	61.9	64.8	61.9	64.0	62.0	59.7	66.3	72.4	66.2
1980	59.9	56.3											

Source: Commodity Economics Division, U.S.D.A.

Total Eggs—U.S. Supply and Distribution In Millions of Dozen

Year & Quarters	Supply				Utilization					
							Domestic Disappearance			
									Civilian	
	Production	Imports	Beginning Stocks	Total Supply	Ending Stocks	Exports & Shipments	Eggs Used for Hatching	Military	Total	Per Capita (Number)
1976 I	1,352	[2]	28.2	1,380	23.1	15.2	104.6	13.1	1,224	69.2
II	1,337	.1	23.1	1,360	23.6	15.9	108.1	10.8	1,202	67.8
III	1,335	1.4	23.6	1,360	23.3	18.0	96.4	9.3	1,213	68.2
IV	1,353	1.0	23.3	1,377	20.7	16.2	97.4	12.2	1,231	69.1
1977 I	1,326	1.1	20.7	1,348	19.9	16.1	109.3	7.6	1,195	67.0
II	1,338	6.0	19.9	1,364	25.0	23.2	112.6	10.9	1,192	66.7
III	1,333	6.9	25.0	1,365	27.1	26.8	102.6	10.0	1,199	66.9
IV	1,411	.2	27.1	1,438	23.7	24.6	104.7	7.8	1,277	71.1
1978 I	1,379	1.4	23.7	1,403	18.1	37.4	113.2	6.6	1,229	68.2
II	1,395	3.3	18.1	1,417	21.0	30.0	122.4	7.0	1,236	68.6
III	1,384	6.7	21.0	1,412	23.1	24.9	111.9	7.4	1,244	68.9
IV	1,448	.1	23.1	1,471	20.4	28.0	115.4	6.9	1,301	71.9
1979 I	1,423	.4	20.4	1,444	16.7	24.4	124.1	5.8	1,273	70.2
II	1,434	2.2	16.7	1,453	18.0	22.7	132.3	13.3	1,267	69.7
III	1,436	4.2	18.0	1,458	19.2	25.4	118.4	7.4	1,287	70.6
IV	1,477	2.7	19.2	1,499	18.9	31.2	117.7	6.9	1,324	72.5
1980 I[3]	1,455									
II										

[1] Shell eggs & the approx. shell-egg equivalent of egg product. [2] Less than 100,000 dozen. [3] Forecast.
Source: Commodity Economics Division, U.S.D.A.

Shell Eggs: Civilian Per Capita Disappearance in the United States Number of Eggs

Year	Shell Equivalent													Processed[2]	Total
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total[1]		
1971	24.7	21.6	23.9	23.1	23.7	22.1	22.9	23.1	21.9	23.3	22.8	24.2	278	36	314
1972	24.5	22.3	24.2	22.9	22.7	21.1	22.6	22.2	21.6	22.2	21.7	23.6	272	36	308
1973	23.4	20.5	23.1	22.4	22.5	20.8	21.4	21.2	20.7	21.4	21.5	23.1	262	32	294
1974	22.8	19.8	22.2	21.0	21.2	20.2	20.7	20.9	20.3	20.9	20.6	22.1	254	34	288
1975	22.0	19.4	21.9	20.4	20.6	19.2	20.1	20.6	19.9	20.9	20.9	21.7	248	31	279
1976	21.7	19.6	20.5	19.6	20.5	19.2	20.1	20.1	19.3	20.3	19.5	20.8	241	33	274
1977	20.9	17.9	20.1	19.2	19.4	18.1	19.1	19.1	19.0	20.7	20.2	21.4	235	37	272
1978	21.1	18.6	20.8	20.0	20.3	18.8	19.9	19.8	19.8	20.8	20.7	21.9	242	36	278
1979[3]	21.7	18.9	21.4	20.5	20.5	19.3	20.4	20.3	20.2	20.6	20.6	22.2	247	36	283
1980															

[1] Monthly totals do not necessarily add to yearly figures due to rounding. [2] Liquid, frozen, & dried egg (egg solids) converted to shell egg equivalent. [3] Preliminary. *Source: Economic Research Service, U.S.D.A.*

Egg-Feed Ratio[1] in the United States

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1971	8.0	7.4	7.3	7.3	6.7	6.4	6.4	7.1	7.1	6.9	7.2	8.2	7.2
1972	7.1	7.0	7.6	6.5	6.4	6.4	7.0	6.9	7.7	6.9	8.0	8.7	7.2
1973	9.0	7.3	7.7	7.9	6.9	6.4	7.1	8.3	8.6	8.2	8.6	8.5	7.9
1974	8.8	8.4	7.5	7.0	6.2	5.8	6.2	5.7	6.7	6.5	6.6	7.2	6.9
1975	7.2	7.2	7.6	6.5	6.5	6.3	6.4	6.8	7.5	7.1	8.1	9.0	7.2
1976	8.6	8.2	7.4	7.3	7.5	6.8	6.8	7.6	7.7	7.8	8.7	9.1	7.9
1977	8.5	8.1	7.3	6.8	5.9	5.8	6.7	7.2	7.6	7.1	7.3	7.4	7.1
1978	6.7	7.5	7.4	6.7	6.4	5.6	6.4	7.0	7.3	7.0	7.5	7.9	6.9
1979[2]	7.7	7.6	7.9	7.4	7.0	6.7	6.0	6.0	6.3	6.0	6.7	7.3	6.9
1980[2]	6.6	5.9	6.3	6.0									

[1] Pounds of laying feed equivalent in value to one dozen eggs. [2] Preliminary. *Source: Commodity Economics Division, U.S.D.A.*

EGGS

Hens and Pullets of Laying Age in the U.S., First of Month In Millions

Year	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1970	317.5	315.0	314.1	312.3	310.6	307.3	306.9	306.9	310.2	316.8	320.2	323.4
1971	326.6	321.6	317.7	315.6	311.9	309.5	306.5	307.1	309.1	311.9	317.1	318.0
1972	321.4	320.1	315.5	312.0	304.3	301.0	298.7	300.1	299.8	300.9	302.2	300.2
1973	300.7	299.5	296.8	297.6	292.3	288.0	283.2	283.3	288.6	291.2	294.4	293.8
1974	296.6	296.1	295.5	292.3	286.9	282.9	279.9	279.0	277.8	279.6	282.3	286.0
1975	286.0	283.5	281.3	277.9	273.7	271.1	270.0	270.0	272.7	276.1	278.2	279.7
1976	279.9	279.6	278.0	274.9	270.3	269.1	268.0	681.1	271.9	273.8	276.3	279.7
1977	280.0	276.8	275.0	273.8	270.2	268.4	266.2	268.5	274.3	279.4	282.6	286.6
1978	287.6	284.0	280.7	279.7	278.1	277.2	274.6	275.2	278.9	283.6	288.2	293.1
1979[1]	291.2	292.0	289.8	288.4	285.2	282.6	283.2	284.5	286.5	289.7	291.1	294.5
1980[1]	295.5	292.6	287.9	284.7	280.3							

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Eggs Laid Per Hundred Layers in the United States In Number of Eggs

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	1,814	1,653	1,881	1,857	1,921	1,832	1,868	1,843	1,759	1,809	1,762	1,834	21,821
1971	1,854	1,702	1,913	1,873	1,947	1,879	1,910	1,880	1,802	1,863	1,813	1,880	22,316
1972	1,896	1,799	1,962	1,916	1,975	1,900	1,944	1,920	1,837	1,887	1,826	1,890	22,752
1973	1,901	1,742	1,954	1,915	1,991	1,908	1,941	1,908	1,836	1,899	1,847	1,917	22,759
1974	1,920	1,759	1,977	1,932	2,007	1,938	1,975	1,955	1,879	1,930	1,870	1,937	23,079
1975	1,952	1,771	1,971	1,920	1,990	1,933	1,995	1,990	1,915	1,966	1,905	1,968	23,280
1976	1,970	1,855	2,005	1,954	2,020	1,962	2,016	1,994	1,917	1,971	1,906	1,971	23,541
1977	1,956	1,782	2,021	1,971	2,034	1,950	1,986	1,978	1,921	1,990	1,944	2,021	23,554
1978	2,009	1,808	2,034	1,993	2,061	1,979	2,016	2,012	1,954	2,012	1,956	2,033	23,853
1979[1]	2,019	1,816	2,042	1,994	2,062	1,992	2,038	2,031	1,958	2,021	1,977	2,054	23,980
1980[1]	2,052	1,924	2,078	2,018									

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

U.S. Cold Storage Holdings of Shell Eggs, 1st of Month In Thousands of Cases (One Case = 30 Dozen)

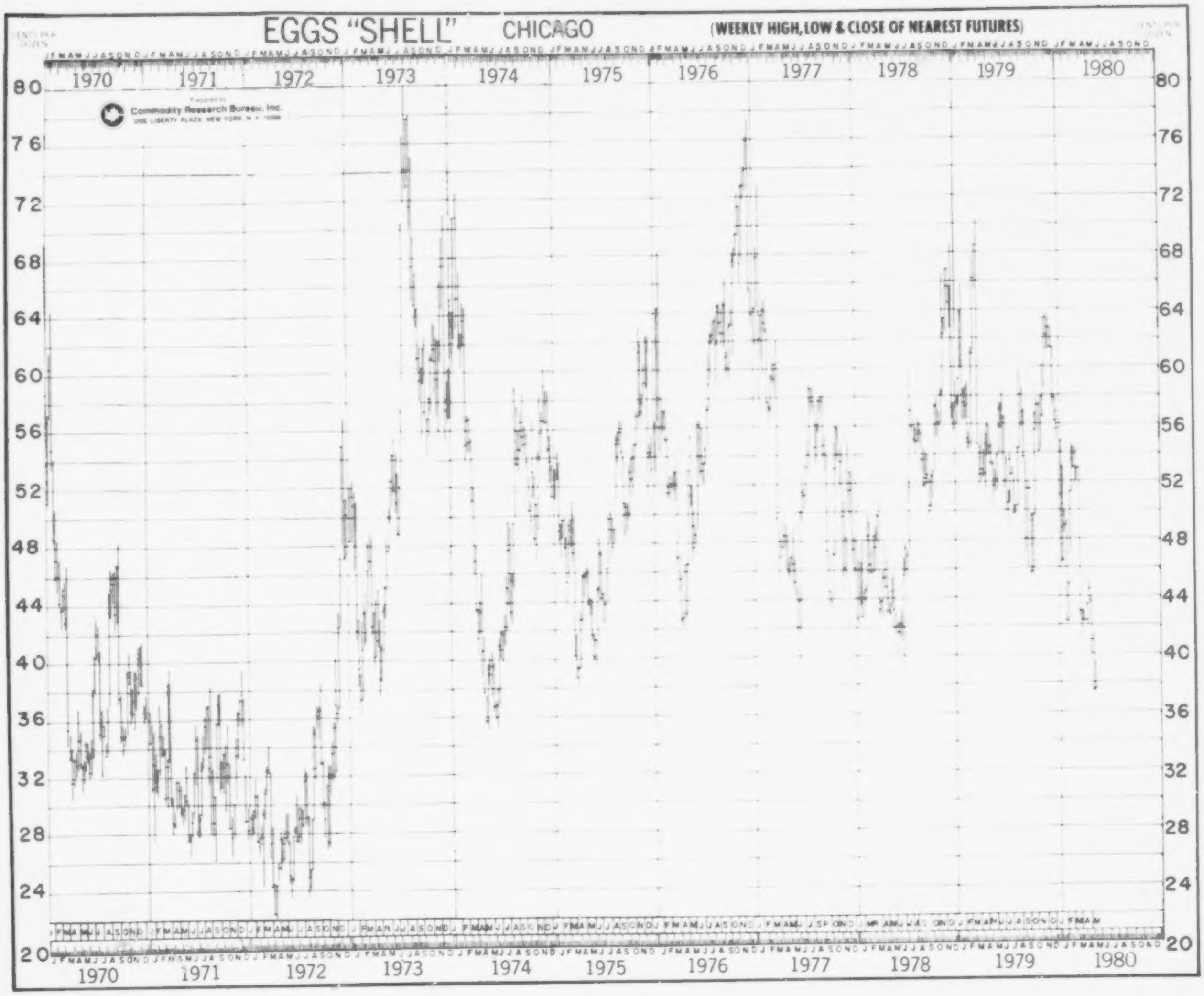
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1970	51	46	79	83	61	111	157	147	98	178	136	76
1971	51	60	52	139	80	101	98	148	141	134	135	94
1972	60	39	49	85	101	191	229	234	200	247	173	85
1973	41	117	87	97	37	39	73	54	62	86	72	67
1974	34	23	42	59	66	86	89	95	78	70	73	52
1975	36	32	48	32	26	68	82	84	80	72	55	40
1976	22	14	21	26	26	22	23	34	45	50	32	25
1977	28	29	42	40	42	34	40	39	47	50	52	50
1978	39	34	27	25	36	29	26	26	48	43	23	35
1979[1]	38	22	18	24	20	27	23	33	28	30	23	24
1980[1]	38	47	24	23	31							

[1] Preliminary. *Source: Crop Reporting Board U.S.D.A.*

Cold Storage Holdings of Frozen Eggs in the United States, on First of Month In Millions of Pounds[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1972	73.8	71.6	71.1	71.1	74.6	80.4	85.4	88.1	88.4	83.9	80.4	76.2
1973	68.1	57.2	53.4	48.9	45.9	44.4	45.7	47.9	48.7	52.6	54.1	48.5
1974	43.2	37.7	35.7	39.4	43.6	49.6	55.6	59.1	63.4	65.6	64.7	60.1
1975	54.2	52.1	51.0	46.7	[illegible]	44.7	47.8	52.1	51.9	51.0	46.6	42.2
1976	36.3	31.7	28.7	29.4	29.7	28.9	30.1	31.6	31.0	28.7	28.9	25.5
1977	26.1	26.9	24.9	24.6	25.3	28.0	31.4	35.1	35.4	33.7	33.4	31.2
1978	29.7	27.9	25.5	22.9	22.9	22.2	26.6	28.0	28.7	28.7	27.6	25.6
1979[2]	25.3	25.5	24.5	21.1	21.7	21.6	22.8	25.8	24.7	24.1	25.7	23.6
1980[2]	23.4	22.3	23.8	23.3	23.4							

[1] Converted on basis 39.5 pounds frozen eggs equals 1 case. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*



World Production[2] of Eggs In Billions of Eggs

Year	Argen-tina	Austra-lia	Bel. & Lux.	Brazil	Canada	Israel	France	W. Ger-many	Italy	Japan	Nether-lands	Poland	U.S.S.R.	Un. King-dom[3]	United States
1969	2.9	2.3	4.0	*1967-71*	5.6	1.2	11.2	14.7	10.3	27.9	4.4	6.7	37.2	15.6	67.5
1970	3.0	2.6	4.4	*Avg.*	5.9	1.3	11.4	15.4	11.1	30.0	4.6	6.9	40.7	15.1	68.5
1971	3.1	2.9	4.0	*(5.3)*	5.9	1.4	11.5	15.4	10.4	30.0	4.4	7.1	45.1	14.9	70.1
1972	3.4	3.4	3.9	5.8	5.6	1.4	11.5	16.1	10.6	30.5	4.4	7.5	47.9	14.6	69.5
1973	3.1	3.3	3.7	6.0	5.5	1.5	12.3	15.5	11.6	31.1	4.7	7.4	50.8	12.9	66.6
1974	3.4	3.3	3.8	6.0	5.5	1.6	12.5	15.0	11.3	30.2	4.8	7.9	55.5	14.4	65.9
1975	3.8	3.4	3.7	6.0	5.4	1.7	13.1	15.0	11.4	29.8	5.3	8.0	57.4	13.6	64.4
1976	3.7	3.2	3.5	6.1	5.2	1.8	12.9	14.4	11.5	31.0	5.6	8.0	55.6	14.0	64.8
1977	3.1	3.3	3.8	6.3	5.5	1.7	13.1	14.8	11.3	31.4	6.0	8.5	61.0	14.1	64.9
1978[1]	3.3	3.4	3.6	6.6	5.5	1.8	13.5	14.5	11.0	32.8	7.0	8.5	65.0	14.3	67.2
1979[4]	3.3	3.3	3.6	7.2	5.7	1.5	14.0	14.3	11.1	32.6	7.7	8.7	66.0	14.0	68.3

[1] Preliminary. [2] Relates to farm production in Canada and the United States, but information for many countries is not explicit on this point. [3] Farm production, years ending May. [4] Forecast. *Source: Foreign Agricultural Service, U.S.D.A.*

Electric Power

Total U.S. production of electricity by utilities in 1979 was approximately 2,248 billion kilowatt hours, according to Federal Power Commission data. This was 2 percent above 1978 production of 2,206 billion kilowatt hours, continuing an uptrend in annual output dating back to 1946. Coal accounted for 47.8 percent of 1979 electricity production by electric utilities; natural gas, 14.7 percent; petroleum, 13.5 percent; hydro, 12.5 percent; and nuclear, 11.4 percent.

Sales of electricity to all ultimate consumers in 1979 were reported by the Federal Power Commission at a record-large 2,060 billion kilowatt hours, up 2.8 percent from the 2,004 billion kilowatt hours consumed in 1978.

Trends in Primary Resource Consumption

Electric utility consumption of coal (mostly bituminous) increased in 1979, reaching 528.8 million short tons, compared with 481.2 million in 1978. Electric utility petroleum consumption dropped 17.7 percent to about 523.8 million barrels from 636.2 million a year earlier. Consumption of natural gas by electric utilities in 1979 approximated 3,490 billion cubic feet, continuing the rebound from the low point reached in 1976, according to Federal Power Commission data.

Trends in Primary Resource Stocks

At the end of 1979, electric utility coal stocks totaled 159.7 million short tons, up from 128.2 million a year earlier. Petroleum stocks at the end of December 1979 were nearly 11 percent higher than a year earlier at 131.9 million barrels.

World Electricity Production In Billions of KWH

Year	Australia	Belgium	Canada	Czechoslov.	France	Italy	Japan	Norway	Poland	Sweden	Switzerland	South Africa	Un. Kingdom	United States	U.S.S.R.
1967	42.9	24.0	165.6	38.6	111.6	96.8	244.9	52.8	N.A.	53.8	30.6	37.9	209.4	1,317	587.7
1968	46.5	26.5	176.4	41.6	117.9	104.0	265.1	59.7	N.A.	56.2	30.6	43.1	223.8	1,436	638.7
1969	51.2	29.2	191.1	43.1	131.5	110.4	304.2	57.0	N.A.	58.1	29.7	46.2	239.1	1,553	689.1
1970	56.1	30.5	204.7	45.2	140.7	117.4	349.9	57.6	N.A.	60.6	33.2	50.8	249.2	1,640	740.9
1971	58.0	33.3	216.5	47.2	155.8	124.9	385.6	63.6	69.9	66.6	32.8	55.0	256.4	1,718	800.4
1972	60.9	37.5	240.2	51.4	170.9	135.3	428.5	67.6	76.5	71.7	31.3	59.1	263.6	1.853	857.4
1973	64.8	41.1	263.3	53.5	182.4	145.5	470.3	73.1	84.3	78.1	37.2	64.5	281.9	1,965	914.6
1974	69.8	42.8	280.3	56.0	188.2	148.9	459.0	76.7	91.6	75.1	37.4	70.1	273.1	1,967	975.8
1975	73.9	41.1	273.4	59.3	185.3	147.3	475.8	77.5	97.2	80.6	43.0	74.9	272.0	2,003	1,039
1976	79.6	47.4	294.0	62.7	203.1	163.5	511.8	82.2	104.1	86.4	36.2	79.1	276.9	2.123	1,111
1977	82.5	47.1	317.2	66.3	210.8	166.5	532.6	79.7	109.4	90.0	45.9	80.2	283.3	2,211	1.150
1978[1]	88.5	50.8	835.7	69.1	222.6	174.8	495.2	81.1	115.6	90.2	42.1	84.8	287.7	2,286	1,200
1979[2]	93.7	52.0	337.5	67.9	225.0	175.0	500.0	89.0	117.5	94.3	40.6	86.0	300.0	2,300	1,240
1980															

[1] Preliminary. [2] Estimate. *Source: United Nations*

Installed Capacity, Capability & Peak Load of the U.S. Electric Utility Industry In Millions of Kilowatts

Year	Installed Generating Capacity at Dec. 31										Capability at Dec. Peak Load	Non-Coincident Dec. Peak Load	Margin of Reserve (%)	Generation	Load Factor (%)
	Total Electric Utility Industry	Type of Prime Mover			Type of Ownership										
		Hydro	Gas Turbine & Steam[2]	Internal Combustion	Investor Owned	Cooperatives	Sub-Total Gov't	Municipal Utilities	Federal	Power Districts, State Projects					
1967	269.3	48.1	214.4	3.8	203.6	3.0	62.7	18.1	33.6	11.0	258.0	213.5	20.8	1,222	65.3
1968	291.1	51 2	233.1	4.0	220.8	3.4	66.9	19.4	35.0	12.5	288.8	226.7	17.2	1,327	63.5
1969	313.3	52.8	233.1	4.2	240.1	4.3	68.9	20.0	36.1	12.8	311.5	236.6	16.6	1,446	64.1
1970	341.1	55.1	252.4	4.4	262.7	5.2	73.2	20.9	38.7	13.6	339.1	248.6	19.0	1,536	63.9
1971	367.4	55.9	259.7	4.5	286.9	5.4	75.1	21.8	39.7	13.7	366.7	261.7	20.9	1,617	63.2
1972	399.6	56.6	322.9	4.8	314.9	6.7	78.0	23.2	40.6	14.2	394.1	291.0	19.6	1,752	62.5
1973	439.9	61.8	352.1	4.9	346.5	7.3	86.1	25.0	44.5	16.6	433.2	295.1	20.8	1,869	62.0
1974	476.0	63.6	375.7	5.0	376.1	7.5	92.4	27.3	45.8	19.2	467.4	302.5	27.2	1,872	61.2
1975	508.4	65.9	397.6	5.1	399.0	9.1	100.2	28.8	50.1	21.3	492.5	331.1	34.3	1,920	61.4
1976	531.2	67.8	415.2	5.3	415.5	9.9	105.7	30.6	51.7	23.4	511.0	349.9	34.5	2,040	62.6
1977	560.4	63.8	436.4	5.3	438.4	10.9	111.1	34.3	53.2	24.6	537.6	360.2	30.2	2,132	61.4
1978[1]	579.3	71.0	449.2	5.5	453.6	11.7	114.0	34.4	54.3	25.3	561.6	383.1	33.7	2,219	62.0
1979															

[1] Preliminary. [2] Nuclear Power for 1970–76; 6.5, 8.7, 15.3, 21.1, 31.7, 39.8, 42.9, 49.9, 53.5. *Source: Federal Power Commission*

Available Electricity & Energy Sales in the United States In Billions of Kilowatt Hours

	Generation						Sales to Ultimate Customers									
	Electric Utility Industry										Commercial & Industrial					
Year	Hydro	Steam	Nuclear	Total[5]	Other Sources [2]	Total	Total Million $	Total[4]	Residential	Inter-Departmental	Small	Large	Street & Highway	Other Public Authorities	Railways & Railroads
1967	222.0	980.3		1,214	103	1,317	17,223	1,107	303.5	3.1	242.5	486.0	9.9	29.4	4.6
1968	222.5	1,089	12.5	1,329	107	1,436	18,580	1,202	367.7	3.6	265.2	518.8	10.3	32.2	4.5
1969	250.2	1,173	13.9	1,442	111	1,553	20,139	1,307	407.9	4.2	286.7	557.2	10.8	35.9	4.5
1970	247.5	1,256	21.8	1,532	108	1,640	22,066	1,391	447.8	4.7	312.8	572.5	11.2	37.8	4.6
1971	266.3	1,302	38.1	1,613	103	1,716	24,725	1,466	479.1	4.9	333.8	592.7	11.7	39.8	4.5
1972	272.6	1,416	54.1	1,750	105	1,854	27,921	1,578	511.4	5.1	361.9	639.5	12.2	43.2	4.4
1973	271.6	1,495	83.3	1,856	103	1,959	31,663	1,703	554.2	5.5	396.9	687.2	12.8	42.3	4.2
1974	300.9	1,446	113.7	1,866	102	1,968	39,127	1,701	555.0	5.4	392.7	689.4	13.3	40.7	4.3
1975	300.1	1,439	172.5	1,918	85	2,003	46,853	1,733	586.1	5.4	418.1	661.6	13.9	43.6	4.3
1976	283.7	1,558	191.1	2,038	87	2,125	53,463	1,850	613.1	6.4	440.6	725.2	14.4	45.6	4.3
1977	220.4	1,648	250.9	2,124	87	2,211	62,610	1,951	652.3	7.2	469.2	757.2	14.4	46.2	4.2
1978[1]	280.6	1,645	276.4	2,206	90	2,300	69,853	2,018	679.2	7.1	480.7	782.1	14.8	49.5	4.3
1979[1]							77,644	2,078	693.9	7.4	494.5	813.6	14.8	49.5	4.2
1980															

[1] Preliminary. [2] Includes generation of industrial and railway electric plants. [3] The dividing point between small and large light and power is 50 kilowatts of demand. [4] Also includes interdepartmental (averages about 600 million kwh). [5] Includes internal combustion. *Sources: Federal Power Commission; Edison Electric Institute*

Electric Power Production by Electric Utilities in the U.S.[2] In Billions of Kilowatt Hours

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	110.1	101.2	108.0	102.3	106.8	112.0	114.7	118.6	107.3	109.7	110.1	116.5	1,317.3
1968	121.7	113.2	115.1	109.5	114.9	119.4	127.8	132.2	116.1	119.7	118.0	128.4	1,436
1969	131.7	117.8	126.1	117.3	123.3	129.8	143.7	142.6	128.7	129.4	125.6	136.7	1,553
1970	141.1	124.7	132.3	126.5	130.5	137.2	149.7	151.5	139.8	132.7	130.9	141.0	1,638
1971	145.6	131.3	141.4	130.7	133.7	150.5	153.9	154.2	145.9	139.5	138.9	148.0	1,714
1972	153.0	145.5	148.9	140.5	146.5	154.4	166.7	171.8	155.8	152.5	152.4	163.1	1,851
1973[2]	159.3	143.1	147.8	139.3	147.0	161.0	173.5	177.0	156.3	153.8	147.8	153.3	1,860
1974	156.9	142.4	149.9	141.9	153.4	156.0	177.9	173.8	152.2	151.9	149.8	159.5	1,867
1975	164.2	147.0	155.5	146.2	153.2	162.4	176.8	179.7	155.1	154.8	152.7	169.3	1,916
1976	178.3	156.7	164.2	153.2	157.4	173.3	186.4	186.4	165.0	163.6	169.0	183.1	2,036
1977[1]	196.3	162.8	168.6	156.9	169.3	180.8	198.9	196.1	176.2	166.4	167.1	184.2	2,124
1978[1]	197.3	173.7	173.2	159.7	175.2	187.4	202.6	205.6	185.6	175.6	176.3	191.7	2,204
1979[1]	209.5	186.3	183.0	169.5	178.2	186.7	202.4	204.9	180.6	179.8	177.4	188.9	2,247
1980													

[1] Preliminary. [2] Data prior to 1973 are production by UTILITIES & INDUSTRIAL ESTABLISHMENTS.
Source: Federal Power Commission

Use of Fuels for Electric Generation in the United States

	Consumption of Fuel									
Year	Coal (Thousand Short Tons)	Fuel Oil (Thousand Barrels)[2]	Gas (Million Cubic Feet)	Total Fuel in Coal Equivalent (Thousand Short Tons)	Net Generation by Fuels[3] (Million Kw. Hr.)	Lbs. of Coal Per Kw. Hr. (Pounds)	% of Total Net Fuel Generation	Average Cost of Fuel Per Kw. Hr. (¢)	Heat Rate BTU Per Kw. Hr.	Cost Per Million BTU Consumed (¢)
1967	274,185	161,278	2,746,352	428,165	984,560	.870	97.1	.27	10,396	25.8
1968	297,779	188,642	3,147,909	475,475	1,093,614	.870	96.7	.27	10,371	26.3
1969	310,641	251,027	3,487,642	517,937	1,177,127	.880	96.2	.28	10,457	27.2
1970	320,818	335,504	3,931,996	573,152	1,261,474	.909	96.4	.33	10,508	31.3
1971	327,878	396,438	3,975,972	599,766	1,307,310	.918	95.9	.40	10,536	37.5
1972	352,391	493,663	3,976,762	647,968	1,421,136	.912	95.6	.43	10,479	41.1
1973	388,190	559,842	3,640,756	688,043	1,498,958	.918	96.1	.50	10,429	48.4
1974	392,344	536,140	3,429,072	685,115	1,449,079	.946	95.6	.93	10,481	89.0
1975	406,032	506,081	3,157,591	686,236	1,441,611	.952		1.12	10,383	108.3
1976	448,431	555,583	3,080,627	740,112	1,558,951	.950		1.20	10,369	115.3
1977	477,215	623,656	3,190,571	798,425	1,648,775	.969		1.38	10,449	131.8
1978[1]	481,621	635,818	3,188,272	811,810	1,646,137	.986		1.53	10,495	145.3
1979										

[1] Preliminary. [2] 42-gallon barrels. [3] Excludes wood & waste fuels. *Source: Federal Power Commission*

Fertilizers (Nitrogen, Phosphate, and Potash)

Fixed Nitrogen

Ammonia, the primary raw material in the manufacture of nitrogenous fertilizers, is made from natural gas and naptha. As of late 1979, almost 70 percent of the world's ammonia production was based on natural gas. World ammonia capacity was expected to reach 124 million short tons by 1985, compared with 102 million estimated for 1979. However, the Commerce Department expected U.S. ammonia capacity to shrink to 20 million tons in 1980. Three years of ammonia plant construction ending in 1977 increased U.S. capacity by 30 percent, creating a serious oversupply. About 4 million tons of capacity (29 plants) were closed in the U.S. between 1977 and 1979.

U.S. ammonia imports have grown from 485,000 tons, or 3.5 percent of U.S. production, in 1970 to 1.9 million tons, or 10 percent of production, in 1979. Mexico and the USSR, countries with abundant natural gas supplies, have each accounted for more than 20 percent of the U.S. imports in recent years. On July 11, 1979, U.S. ammonia producers petitioned the U.S. International Trade Commission (ITC) for protection from Soviet imports. In October 1979, the ITC ruled in favor of the petitioners, suggesting that the President impose an import quota on the USSR from 1980 to 1982. President Carter responded by setting an import quota of 1 million tons for 1980; the Occidental Petroleum Corp. had imported 950,000 tons of Soviet ammonia in 1979.

Between 1973 and 1979, the cost of natural gas feedstock increased 250 percent to $2.50 per MCF (thousand cubic feet). It was expected to reach $5 per MCF by 1985. The average U.S. plant uses up to 38 MCF to produce 1 ton of ammonia. Assuming 10-year straight-line depreciation, a capital cost of $100 million for a 1,200-ton-per-day plant (optimum size), a 20 percent pretax return on investment and 10 percent for sales and overhead costs, the f.o.b. plant price should be $196, according to the Commerce Department. But the f.o.b. Houston price at the end of 1979 was only $150 per ton.

Two ammonia derivatives, urea and diammonium phosphate (DAP) are leading fertilizer chemicals. Urea is a solid that releases its 46 percent nitrogen content slowly. DAP, besides being 47 percent phosphorus, is 18 percent nitrogen and comparatively economical to ship. Research is being done to find other sources of hydrogen for ammonia production. Coal is a potential source, but it is likely that the use of it will depend upon federal subsidies of the process. The Tennessee Valley Authority expected to have an ammonia plant, using hydrogen from coal, operating in Muscle Shoals, Ala., by mid-1980.

Phosphate Rock

The U.S. is fortunate to have phosphate rock deposits economically close to large supplies of sulfur and to seaports. This gives the U.S. a comparative advantage in phosphate production and shipments. Phosphate rock is underpriced in the world market, compared with DAP. U.S. capacity to make phosphoric acid was limited in early 1980; it is needed to make DAP. U.S. supply and demand for phosphoric acid were tight in 1979, with the industry producing at an annual rate of 10 million tons for most of the year, stretching its capacity. Export demand was high because of shipments to the USSR. By 1985, the U.S. is expected to account for only 25 percent

World Production of Nitrogen Compounds In Thousands of Short Tons of Contained Nitrogen

Yr. Ending June 30	Bulgaria	Canada	China	France	W. Germany	India	Israel	Italy	Japan	Netherlands	Poland	U.S.S.R.	Un. Kingdom	United States	World Total[1]
1971–2	620	777	1,820	1,489	1,659	917	26	1,065	2,320	1,025	1,191	6,674	824	8,919	38,610
1972–3	577	851	2,226	1,628	1,621	1,162	26	1,152	2,424	1,341	1,265	7,221	828	9,296	41,715
1973–4	572	885	2,830	1,810	1,624	1,157	35	1,245	2,357	1,324	1,505	7,947	833	10,095	44,578
1974–5	654	987	3,196	1,867	1,735	1,308	43	1,247	2,580	1,471	1,607	8,605	1,099	9,341	46,788
1975–6	741	854	3,263	1,500	1,388	1,662	50	1,102	1,716	1,272	1,689	9,333	1,163	10,572	48,291
1976–7[1]	731	1,058	3,968	1,612	1,422	2,047	53	1,086	1,267	1,381	1,706	9,404	1,181	10,792	50,565
1977–8[2]		2,500		2,233	2,188	1,900		1,266	2,432	1,935			1,542	12,010	62,800
1978–9[2]		2,118		2,222	2,151	2,304		1,528	2,596	2,383			1,760	14,048	72,900
1979–0[2]		2,100		2,200	2,200	2,500		1,500	2,300	2,400			1,800	14,475	76,000

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

U.S. Salient Statistics of Nitrogen[1] In Thousands of Short Tons

	Production				Apparent Consumption			Producer Stocks		Average Price ($Per Sh. Ton)			
										Elemental			
Year	Elemental	Fixed	Imports Fixed	Exports (Ammonia)	Fixed (Ammonia)	Elemental	Fixed	Natural	Fixed	(Pipeline Gas)	(Bulk Liquid)	Fixed (Ammonia)	Natural (Sodium Nitrate, Bulk)
1972	7,011	12,651			584	7,011	12,333	25	1,359	7.48	41.85	60.00	51.50
1973	8,229	12,641	271	741	588	8,229	12,720	13	713	7.20	43.07	65.00	51.50
1974	8,814	13,061	373	326	411	8,814	12,987		942	9.05	48.24	142.50	75.00
1975	9,142	13,617	662	289		9,141	13,229		1,698	11.13	57.96	190.00	
1976	10,464	13,363	599	361		10,463	13,946		1,853	11.76	57.22	185.00	
1977[2]	11,870	14,566	884	346		11,870	14,685		2,272	11.27	56.11	130.00	
1978[2]	13,889	14,048	1,243	433		13,707	15,085		2,045	13.66	60.64	110.00	
1979[2]	14,531	14,475	1,650	550		14,386	15,920		1,700	14.75	65.50	130.00	

[1] Elemental, Fixed, & Natural Nitrates. [2] Estimates. *Source: Bureau of Mines*

of world phosphoric acid capacity, compared with 34 percent in 1979. The USSR's share is expected to increase by 1 percentage point during the same period to 20 percent.

Approximately 51 million tonnes (metric tons) of phosphate rock were mined in the U.S. in 1979. The value of the production was estimated at $970 million, compared with $929 million for the approximately 50 million tonnes mined in 1978.

Potash

The U.S. imports about 75 percent of its potash, primarily from Canada. But about 5 percent has come from the USSR. While supplies are adequate, regional imbalances could arise in 1980 because of transportation problems.

The USSR, which accounts for 35 percent of world potash capacity, is a net exporter, since it accounts for about 25 percent of world consumption. Canada has the world's largest resources, but it is second to the USSR in output.

According to the Potash/Phosphate Institute, Canadian potash production (all muriate) totaled 6.7 million tonnes in 1979. The U.S. imported 4.9 million tonnes of that total. Saskatchewan's provincial government and its six independent potash producers have reached a five-year compromise on production and income taxes, retroactive to July 1, 1979. Meanwhile, the government's Potash Corporation of Saskatchewan has announced plans to expand its capacity from 2.2 million tonnes per year to 6.9 million tonnes over 10 years ending in 1989.

World Production of Phosphate Rock In Thousands of Metric[3] Tons

Year	Brazil	China	Christmas Isl.	Israel	Jordan	Morocco	Nauru Island	Senegal	South Africa	Togo	Tunisia	United States	U.S.S.R.	Vietnam	World Total
1971	220	2,400	1,092	843		13,237	2,058	1,703	1,359	1,891	3,485	38,886	20,950	300	92,508
1972	331	2,900	1,269	1,033	765	16,650	1,474	1.561	1.380	2,126	3,734	40,831	21,750	310	99,287
1973	283	3,300	1,695	860	1,191	18,824	2,561	1,931	1,505	2,527	3,829	42,137	23,400	550	108,823
1974	361	3,300	1,945	1,131	763	21,739	2,522	2,070	1,564	2,835	4,200	45,686	24,800	1,300	121,240
1975[3]	406	3,400	1,391	882	1,352	13,548	1,534	1,801	1,646	1,161	3,481	44,276	24,150	1,400	107,531
1976	490	3,750	1,033	639	1,717	15,656	755	1,799	1.702	2,009	3,294	44,662	24,200	1.500	107,616
1977[1]	605	4,100	1,186	1,232	1,781	17,027	1,146	1,869	2,403	2,857	3,614	47,256	24,200		115,948
1978[2]						19,719		1.762	2,699	2,827	3,767	50,037			125,000
1979[2]						20,000		1,600	3,100	2,900	3,800	51,000			133,000
1980															

[1] Preliminary. [2] Estimate. [3] Data prior to 1975 are in THOUSANDS OF SHORT TONS. *Source: Bureau of Mines*

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FERTILIZERS (NITROGEN, PHOSPHATE AND POTASH)

U.S. Salient Statistics of Phosphate Rock In Thousands of Metric Tons

Year	Mine Production	Production Marketable	Imports for Consumption	Exports	Apparent Consumption	Stocks, Dec. 31	Price—$ Avg. Per Metric Ton (f.o.b. Plant)
1972		40,831	55	14,275	29,535	10,501	5.09
1973	126,720	38,218	59	12,585	28,328	8,482	6.24
1974	141,353	41,437	165	12,605	31,491	6,975	12.10
1975	170,077	44,276	33	11,131	31,022	9,021	25.35
1976	154,278	44,662	42	9,433	31,131	13,770	21.26
1977	166,893	47,256	158	13,230	34,365	13,682	17.39
1978[1]	173,429	50,037	908	12,870	36,812	15,081	18.56
1979[2]	185,757	51,611	886	14,358	39,591	14,357	19.00
1980							

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

World Production of Marketable Potash In Thousands of Metric[3] Tons (K_2O Equivalent)

Year	Canada	Chile	China	Congo (Brazz.)	France	Germany East	Germany West	Israel	Italy	Spain	U.S.S.R.	United States	United Kingdom	World Total
1972	3,852	28		310	1,941	2,709	2,698	618	238	703	5,989	2,659		22,060
1973	4,698	28		297	2,494	2,818	2,809	585	148	522	6,523	2,603		23,855
1974	6,041	14		318	2,508	3,157	2,888	669	169	436	7,260	2,552		26,432
1975	5,992	13	330	315	2,116	3,328	2,450	789	155	506	8,757	2,501	17	27,269
1976	5,507	16	330	280	1,764	3,484	2,244	761	154	590	9,161	2,400	50	26,741
1977[1]	6,712	18	330	89	1,740	3,559	2,581	793	166	621	9,201	2,457	89	28,356
1978[3]	6,124				1,795		2,470	679	134	611		2,253	150	26,200
1979[2]	6,500				1,900		2,500	800	140	650		2,243	200	27,500
1980														

[1] Preliminary. [2] Estimate. [3] Data prior to 1978 are in THOUSANDS OF SHORT TONS. *Source: U.S. Bureau of Mines*

U.S. Salient Statistics of Potash In Thousands of Metric[4] Tons (K_2O Equivalent)

Year	Production	Sales by Producers	Imports for Consumption	Exports	Apparent Consumption	Producer Stocks Dec. 31	Average Price[3] ¢ Per Met. Ton
1971	2,587	2,592	2,766	564	4,794	428	34
1972	2,659	2,618	2,961	764	4,815	468	34
1973	2,603	2,865	3,587	889	5,563	206	36
1974	2,552	2,545	4,326	787	6,084	212	52
1975[4]	2,269	1,900	3,445	707	4,638	562	84
1976	2,177	2,268	4,168	857	5,579	471	73
1977	2,229	2,232	4,605	845	5,992	467	71
1978[1]	2,253	2,307	4,705	809	6,203	414	76
1979[1]	2,225	2,388	5,163	635	6,916	251	96
1980							

[1] Preliminary. [2] Estimate. [3] Unit of K_2O, standard 60% muriate f.o.b. mine. [4] Data prior to 1975 are in THOUSANDS OF SHORT TONS. *Source: Bureau of Mines*

Flaxseed and Linseed Oil

The U.S. flaxseed supply for the 1979/80 season which began June 1, 1979, totaled 18 million bushels, about the same as for the previous season. The 1979 flaxseed crop was up about 39 percent from the 1978 crop. Carryover stocks were down, but prospective 1979/80 imports were slightly above 1978/79 levels.

U.S. flaxseed crushings during 1979/80 were expected to total about 13 million bushels, leaving little seed available for export. Crushings of flaxseed ranged between 11 million and 13 million bushels during each of the past 5 seasons. A crush of about 13 million bushels would produce approximately 260 million pounds of linseed oil and about 240,000 tons of linseed meal.

In March 1980, the Foreign Agricultural Service of the USDA estimated 1979/80 world production of flaxseed at 3.0 million tonnes, slightly larger than 1977/78 production. (Split year includes Northern Hemisphere crops harvested in the late months of the first year shown combined with Southern Hemisphere and certain Northern Hemisphere crops harvested in the early months of the following year.) Production gains were expected in Argentina and Canada. However, later information indicated reduced Canadian flaxseed acreage intentions, and drought may have cut production in Argentina.

The USDA forecast 1979/80 world production of linseed meal (calculated from assumed extraction rates applied to the portion of the crop available for crushing and/or export—not actual production) at about 1.7 million tonnes, up slightly from estimated production in the previous season. World exports of linseed meal in 1980 were expected by the USDA to be slightly higher than in 1979. World production of linseed oil was estimated by the USDA in March 1980 at 923,000 tonnes, up 22 percent from 1978/79.

Government Activities

Secretary of Agriculture Bob Bergland on March 28, 1980, announced a national purchase price of $4.50 per bushel for the 1980 U.S. flaxseed crop.

Purchase agreements are not binding on producers; they may sell their crop at any time, thus voiding the agreement.

Producers may sign agreements up to May 31, 1981, in the major flaxseed-producing states of Minnesota, Montana, North Dakota and South Dakota, and by April 30, 1981, in all other states. Producers will not receive payment and may not deliver their crop to the CCC until after those dates.

Flaxseed futures are traded on the Winnipeg Commodity Exchange.

World Production of Flaxseed In Thousands of Metric Tons

Crop Year	Argentina	Australia	Brazil	Canada	Ethiopia	France	India	Mexico	Poland	Romania	Turkey	Uruguay	United States	U.S.S.R.	World Total
1967–8	385	11	28	238	60	33	260	15	73	39	12	27	509	519	2,319
1968–9	510	20	28	500	60	22	438	10	65	30	12	56	685	485	3,033
1969–0	640	37	31	700	62	20	329	10	57	38	12	105	887	451	3,499
1970–1	680	31	22	1,243	64	19	469	30	65	42	7	64	751	404	3,995
1971–2	316	10	12	567	70	21	474	40	75	58	7	43	462	464	2,748
1972–3	330	11	12	448	69	18	530	10	54	51	6	29	353	413	2,446
1973–4	297	14	12	493	72	18	428	11	51	45	6	26	409	507	2,393
1974–5	381	33	10	351	72	6	564	20	40	39	7	39	358	388	2,416
1975–6	377	13	8	445	75	32	598	27	36	45	8	62	395	340	2,564
1976–7	750	12	7	277	50	16	431	8	49	50	7	46	199	337	2,347
1977–8[1]	855	17	5	650	50	14	500	15	38	50	6	40	409	359	3,126
1978–9[1]	600	35	6	571	50	7	514	15	60	50	6	40	277	400	2,615
1979–0[1]	816			836			520						337	400	3,145

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

World Exports of Flaxseed from Specified Countries In Thousands of Metric Tons

Year	Poland	Bel.-Luxem.	Canada[2]	China	Ethiopia	Brazil	France	Afganistan	Morocco	Netherlands	New Zealand	W. Germ.	United States	Uruguay	World Total
1967	2.5	31.0	120	—	9.7	0	—	3.4	2.1	7.3	0	1.0	55	0	572.4
1968	1.5	25.1	95	0	3.7	0	—	11.1	1.1	6.6	1.1	.3	83	0	570.6
1969	1.6	24.3	137	—	.3	0	.1	10.1	1.8	3.2	.2	.3	75	0	658.6
1970	1.3	22.6	168	—	—	4.5	2.7	4.0	2.5	2.9	.6	13.3	27	.1	629.7
1971	.3	25.2	213	0	.1	0	5.6	10.0	1.2	3.1	.1	27.0	3	0	715.6
1972	1.0	27.5	202	0	.5	0	7.1	10.0	1.2	3.6	.1	23.7	97	0	947.1
1973	1.0	23.5	147	0	.8	0	7.8	10.0	2.2	3.3	—	31.1	4	—	526.6
1974			119										—	—	
1975			83										9	—	
1976			84										—	—	
1977			112										—	—	
1978[1]			119										—	—	

[1] Preliminary. [2] Net exports. *Source: Foreign Agricultural Service, U.S.D.A.*

FLAXSEED AND LINSEED OIL

Production of Flaxseed in the United States In Thousands of Bushels

	Crop Production Estimates					By States									
Year	July 1	Aug. 1	Sept. 1	Oct. 1	Dec. 1	Arizona	California	Iowa	Minnesota	Montana	North Dakota	South Dakota	Texas	Wisconsin	U.S. Total
1967	19,308	18,545	19,058	20,314	19,931	—	51	40	3,783	40	9,381	6,591	150	—	20,036
1968	23,052	25,778	26,427	26,909	27,264	—	72	38	4,606	77	13,860	7,588	742	—	26,983
1969	30,476	34,183	35,131	36,094	36,448	—	120	19	5,820	169	18,438	9,063	1,300	—	34,929
1970	35,401	29,146	30,065	30,877	29,970	—	78	18	4,477	253	16,440	7,025	1,125	—	29,416
1971	20,212	20,814	20,011	20,011	18,653	—	—	18	3,480	64	9,041	5,525	70	—	18,198
1972	15,488	14,240	15,051	15,300	13,909	—	—	—	1,794	104	7,320	4,500	165	—	13,883
1973	—	15,431	15,904	15,904	16,437	—	—	—	3,119	56	7,576	5,577	80	—	16,401
1974	—	13,713	14,263	14,543	13,337	—	—	—	3,163	40	6,688	3,818	374	—	14,083
1975	—	16,272	16,140	15,746	14,557	—	—	—	2,875	38	7,700	4,460	480	—	15,553
1976	—	6,776	6,967	6,951	7,356	—	—	—	1,950	50	4,000	1,380	440	—	7,820
1977	—	15,466	16,011	16,249	16,105	—	—	—	3,190	35	7,500	4,290	90	—	15,105
1978	—	11,156	11,348	11,705	10,921	—	—	—	2,201	—	4,715	3,288	200	—	10,404
1979[1]	—	11,847	12,501	13,255	13,539	—	—	—	2,219	—	6,375	4,900	45	—	13,539
1980															

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

U.S. Supply and Distribution of Flaxseed In Thousands of Bushels

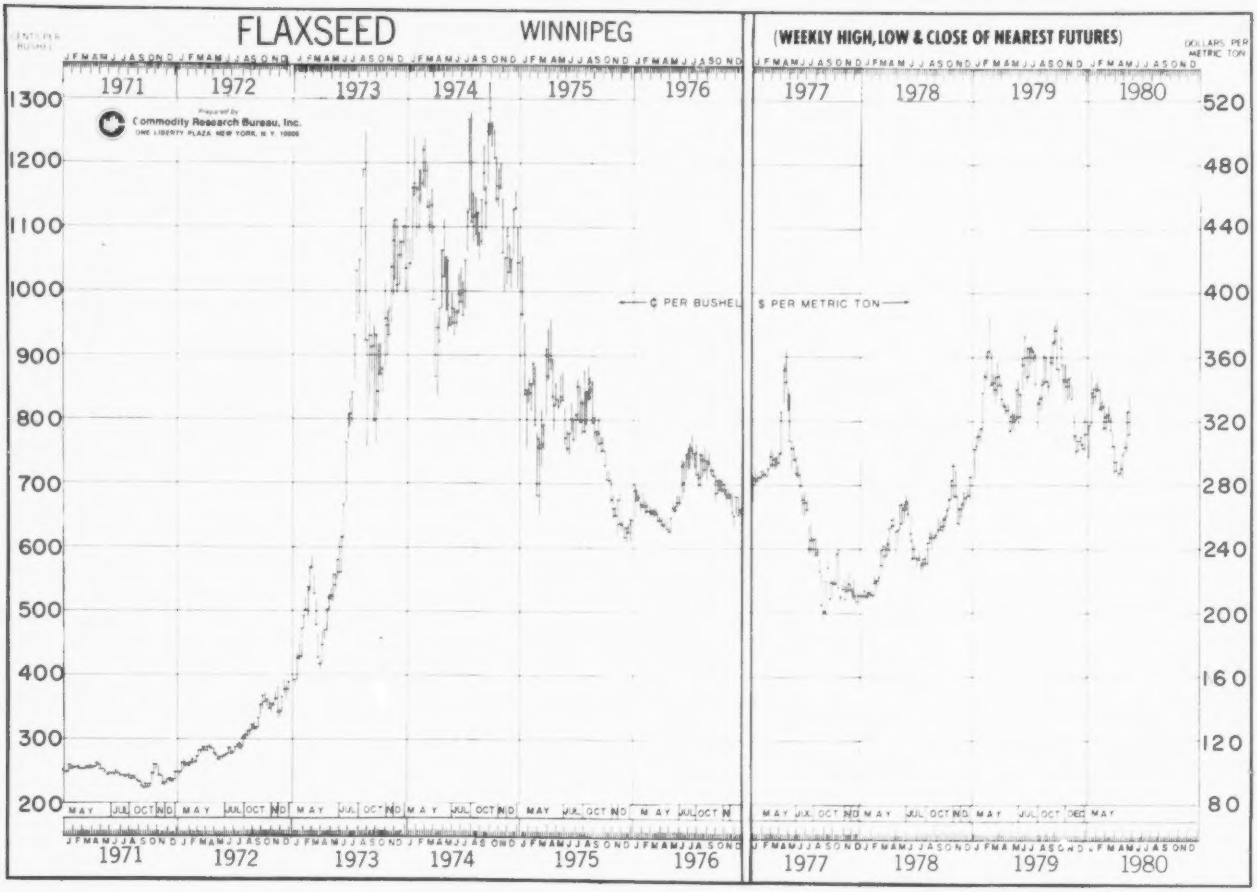
	Supply							Distribution				
	Stocks, June 1											
Year Beginning June	Farm	Terminal	All Other	Total Stocks[4]	Imports	Production	Total Supply	Used for Seed	Crushed for Oil	Exports	Other[2]	Total Distribution
1967–8	1,399	7,855		11,905	3	20,036	31,944	1,559	16,511	5,438	—195	23,313
1968–9	1,304	5,664		8,631	1	26,983	35,615	1,968	14,436	9,531	—1,942	23,993
1969–0	2,085	7,706		11,622	0	34,929	46,551	2,265	14,289	6,505	452	23,511
1970–1	4,481	17,343		23,040	1	29,416	52,457	1,262	18,155	3,220	922	23,559
1971–2	3,174	23,605		28,898	74	18,198	47,170	933	21,022	910	1,102	23,967
1972–3	2,502	17,630		23,203	3	13,883	37,089	1,398	19,932	9,881	393	31,604
1973–4	403	3,103		5,485	399	16,408	22,292	1,360	17,203	630	—953	18,240
1974–5	658	1,885		4,052	130	14,083	18,265	1,231	13,386	372	245	15,234
1975–6	1,120	1,100		3,031	148	15,553	18,732	1,054	11,791	952	44	13,842
1976–7	1,830	3,060		4,890	2,168	7,820	14,879	1,167	10,677	196	—166	11,875
1977–8	1,070	1,934		3,004	859	15,105	18,968	1,089	11,615	1,001	313	14,018
1978–9[1]	2,890	2,606		5,496	1,557	10,404	17,974	831	13,029	61	1,759	14,680
1979–0[3]	1,168	1,609		2,777	1,600	13,539	17,916	800	13,000	75	541	14,316
1980–1												

[1] Preliminary. [2] Other disappearance represents cleaning loss, waste, and residual. [3] Forecasts. [4] Estimates prior to 1975. Derived from July 1 stocks by adding June crushings & exports. *Source: Statistical Reporting Service, U.S.D.A.*

Average Price Received by Farmers for Flaxseed in the U.S. In Cents Per Bushel

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average[1]
1967–8	298	302	296	289	285	286	288	290	294	294	294	297	295
1968–9	295	279	278	281	279	279	277	281	286	287	279	282	281
1969–0	273	266	257	264	261	264	264	262	264	266	250	259	265
1970–1	256	246	236	231	232	233	231	233	234	238	237	238	240
1971–2	234	234	231	225	227	237	241	242	244	249	249	250	238
1972–3	249	255	269	276	281	313	351	415	438	439	444	548	310
1973–4	572	675	729	766	810	863	936	1010	1080	927	883	776	756
1974–5	860	1080	977	1050	1060	1050	863	776	647	678	711	664	966
1975–6	755	722	682	666	560	570	537	587	574	588	554	669	657
1976–7	720	704	748	708	726	700	704	720	742	752	722	637	708
1977–8	514	415	420	456	420	432	421	407	441	485	532	589	454
1978–9	524	534	531	525	539	530	567	601	648	706	737	727	574
1979–0	690	642	634	556	545	561	551	579	585	526			
1980–1													

[1] Season average includes an allowance for unredeemed loans. *Source: Crop Reporting Board, U.S.D.A.*



Flaxseed Crushings in the United States In Thousands of Bushels

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1970–1	861	1,456	1,807	1,536	1,346	1,374	1,579	1,596	1,741	1,811	1,832	2,007	18,946
1971–2	1,264	1,679	1,707	1,771	1,596	1,686	1,886	1,818	2,218	1,805	1,585	1,966	20,980
1972–3	1,660	2,016	2,036	1,768	1,775	1,455	1,646	1,279	1,337	1,386	1,568	1,979	19,944
1973–4	1,489	1,668	1,975	2,040	1,447	1,121	1,196	993	993	964	1,338	1,508	16,732
1974–5	1,321	740	1,482	1,856	1,590	1,514	861	696	759	488	571	811	13,386
1975–6	375	1,032	1,636	1,925	954	877	589	886	793	876	1,036	991	11,790
1976–7[1]	1,090	818	1,020	1,002	624	1,134							10,677
1977–8[1]	650	1,188	1,394	807	686	929	973	736	343	1,107	1,743	1,650	11,615
1978–9[1]	1,661	996		751	778	701	813	853					
1979–0[1]				612	780	593	1,045						

[1] Preliminary. *Source: Economic Research Service, U.S.D.A.*

FLAXSEED AND LINSEED OIL

Flaxseed Stocks in the United States In Thousands of Bushels

Year	On Farms				Off Farms				Total Stocks			
	Jan. 1	Apr. 1	June 1	Oct. 1	Jan. 1	Apr. 1	June 1	Oct. 1	Jan. 1	Apr. 1	June 1	Oct. 1
1975	3,946	2,668	N.A.	7,552	3,745	1,907	N.A.	6,228	7,691	4,575	3,031	13,780
1976	4,220	3,009	1,830	4,116	5,533	4,164	3,060	4,971	9,753	7,173	4,890	9,087
1977	2,853	2,070	1,070	9,292	4,375	2,879	1,934	4,307	7,228	4,949	3,004	13,599
1978	5,773	4,499	2,890	6,170	5,168	3,905	2,606	3,390	10,941	8,404	5,496	9,560
1979[1]	4,140	2,806	1,168	8,120	4,027	3,039	1,609	2,999	8,167	5,845	2,777	11,119
1980[1]	5,397	4,358			4,723	3,248			10,120	7,606		
1981												

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

World Exports of Linseed Oil from Specified Countries In Thousands of Metric Tons

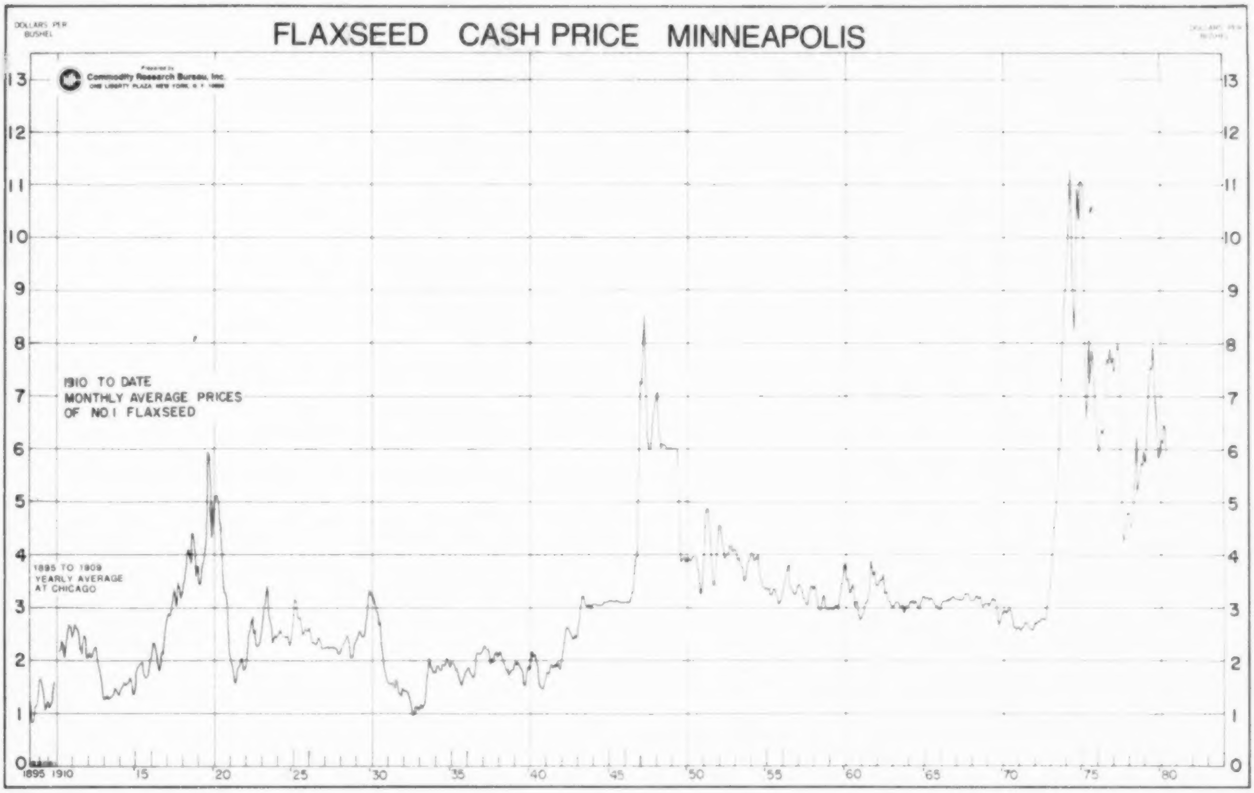
Year	Argentina	Ireland	Belgium Lux.	Canada	France	W. Germany	India	Morocco	Japan	Netherlands	Switzerland	United Kingdom	United States	Uruguay	World Total
1966	121.5	.1	3.9	5.6	1.0	2.7	—	.9	.8	5.4	.4	8.3	57.2	15.6	223.0
1967	211.3	.2	4.7	4.1	1.0	2.8	—	.6	.5	5.9	.2	7.6	20.6	12.5	271.3
1968	98.2	.5	6.3	10.4	.5	7.6	.1	.9	.8	8.8	.1	7.4	49.8	7.4	198.1
1969	166.8	.6	0	4.0	1.2	15.3	.2	.8	.8	4.9	.1	3.2	17.4	20.7	235.1
1970	168.4	.7	0	12.6	1.7	18.5	—	—	1.5	4.8	.6	5.7	21.9	30.5	267.0
1971	206.8	.4	4.1	11.0	1.7	17.8	—	—	3.4	7.3	1.0	3.7	21.1	18.4	297.0
1972	123	.6	5.1	16.1	1.9	33.2	—	—	1.5	13.0	—	3.7	84.8	6.0	286.1
1973[1]	99	.6	5.5	6.1	3.6	32.1	—	—	.7	23.5	—	3.5	96.4	11.6	279.7
1974[1]	80		1	1									53	6	
1975[1]	84		4	4									40	10	
1976[1]	113		5	5									9	17	
1977[1]	199		6	6									12	14	
1978															

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

Supply and Distribution of Linseed Oil in the United States In Millions of Pounds

Year Beginning June	Supply			Exports & Shipments	Domestic Disappearance								Flaxseed (Oil Equivalent of Exports)[3]
					Drying Oil Products								
	Stocks July 1	Production	Total		Paint & Varnish	Linoleum & Oilcloth	Resins & Plastics	Other Inedible	Total	Lubricants & Similar Oils	Fatty Acids	Total	
1966–7	260	415	675	136	268	4	21	13	324	4	22	327	137
1967–8	212	343	555	30	273	3	19	19	267	3	6	320	109
1968–9	205	301	506	108	193	20	19	29	273	4	1	246	193
1969–0	152	290	442	40	220	13	19	18	239	12	2	272	131
1970–1	130	365	495	47	209	8	19	19	239	13	1	261	64
1971–2	187	428	615	66	221	7	21	16	258	13	3	274	18
1972–3	275	393	668	256	224	11	25	21	270	14	—	285	200
1973–4	127	344	471	142	205	11	21	22	248	10	—	258	13
1974–5	71	263	334	143	112	3	11	12	134	8	—	142	7
1975–6	49	230	279	42	154	—	10	9	173	10	4	188	19
1976–7	49	217	266	14					156			164	4
1977–8[1]	88	232	320	25								225	20
1978–9[2]	70												
1979–0													

[1] Preliminary. [2] Estimate. [3] Based on 20 lbs. of linseed oil per bushel of flaxseed exports.
Source: Economic Research Service, U.S.D.A.



Average Price of No. 1 Flaxseed at Minneapolis In Dollars Per Bushel

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average[1]
1969–0	2.88	2.69	2.77	2.90	2.92	2.94	2.90	2.92	2.97	2.97	2.89	2.83	2.90
1970–1	2.65	2.64	2.60	2.62	2.63	2.58	2.62	2.63	2.71	2.72	2.70	2.68	2.66
1971–2	2.62	2.61	2.58	2.64	2.71	2.70	2.74	2.74	2.78	2.80	2.80	2.79	2.69
1972–3	2.85	3.00	3.08	3.14	3.41	3.90	4.52	4.75	4.84	5.12	5.93	6.37	3.94
1973–4	7.36	7.89	8.71	8.82	9.22	10.06	10.67	11.29	9.87	8.67	8.26	9.25	8.93
1974–5	10.92	10.33	11.04	11.08	10.97	8.76	7.70	6.60	7.39	8.15	7.23	7.88	9.12
1975–6	7.69	7.25	6.64	6.18	6.09	5.93	6.36	6.30	6.40	6.67	7.31	7.70	6.71
1976–7	7.63	7.91	7.61	7.71	7.46	7.54	7.63	7.82	7.99	7.76	6.10	5.17	7.36
1977–8	4.26	4.41	4.79	—	4.80	4.61	4.51	4.78	5.30	5.78	6.25	5.22	4.97
1978–9	5.47	5.76	5.70	5.99	5.75	6.17	6.63	7.22	7.54	7.51	7.98	7.23	6.58
1979–0	7.00	6.71	6.12	5.84	6.16	6.14	6.47	6.44	5.95				

[1] Weighted average by carlot sales. *Source: Economic Research Service, U.S.D.A.*

Wholesale Price of Raw Linseed Oil at Minneapolis in Tank Cars In Cents Per Pound

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1969–0	11.9	11.9	11.9	12.5	12.5	12.5	12.5	N.A.	11.0	11.0	12.2	12.2	11.9
1970–1	11.0	11.0	10.0	10.0	10.0	9.5	9.5	9.5	9.0	8.8	8.8	8.8	9.7
1971–2	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	9.5	8.9
1972–3	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	14.0	14.2	10.3
1973–4	15.0	N.A.	N.A.	N.A.	—	35.0	35.0	40.2	42.6	45.0	45.0	44.5	37.8
1974–5	44.0	44.0	47.0	48.5	48.5	48.5	46.2	44.0	44.0	44.0	44.0	44.0	45.6
1975–6	44.0	39.0	36.0	35.0	30.5	29.8	28.3	27.5	25.5	24.0	24.0	24.0	30.6
1976–7	25.4	27.0	27.8	30.0	30.0	30.0	30.0	30.0	28.0	28.5	28.5	28.5	28.6
1977–8	28.0	28.0	27.0	22.8	20.0	20.0	26.6	26.6	26.6	—	22.0	22.0	24.5
1978–9	22.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	30.0	30.0	24.9
1979–0	30.0	30.0	32.0	32.0	32.0	32.0	32.0	28.8	28.8				

Source: Department of Agriculture

FLAXSEED AND LINSEED OIL

Linseed Oil Production (Crude, Raw) In Millions of Pounds

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1960–0	12.8	16.1	39.5	31.2	26.7	19.5	23.0	24.2	21.4	27.1	26.8	24.2	292.5
1970–1	17.5	29.1	36.2	30.7	26.8	27.5	31.9	32.4	34.9	36.7	36.8	41.4	381.9
1971–2	25.9	34.7	35.4	36.5	32.3	33.3	38.2	36.5	44.8	36.1	33.2	39.0	425.9
1972–3	33.2	40.4	41.1	34.0	35.0	28.2	31.3	25.1	26.5	28.5	30.2	39.9	393.4
1973–4	29.6	33.4	39.1	40.6	28.2	22.3	24.2	19.6	20.1	20.0	27.1	30.6	335.0
1974–5	24.8	14.6	29.2	36.5	32.2	29.8	16.5	14.2	13.9	9.5	10.9	15.2	247.3
1975–6	6.5	18.4	31.8	37.6	19.2	14.6	11.7	17.9	19.0	17.4	20.6	19.7	229.7
1976–7[1]	21.8	16.4	21.0	20.6	12.5	22.7							216.5
1977–8[1]	13.0	22.9	26.9	15.5	13.5	18.8	19.5	14.6	6.9	22.8	35.9	30.9	231.4
1978–9[1]	32.4	20.3	18.4	—	16.9	14.6	16.1		23.7	28.3	26.2	26.1	223.0
1979–0[1]	14.6	20.5	38.2	11.5	15.7	12.2							

[1] Preliminary. *Source: Bureau of the Census*

U.S. Linseed Oil Domestic Disappearance In Millions of Pounds

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1969–0	17.0	17.0	16.2	17.1	13.8	13.9	13.6	15.0	14.6	16.7	17.1	18.6	190.6
1970–1	18.6	18.4	16.8	15.1	14.2	12.7	13.3	15.8	18.4	19.6	19.6	22.7	205.2
1971–2	17.9	19.4	18.0	17.6	15.3	16.0	17.3	17.6	19.0	19.7	22.5	24.3	224.6
1972–3	21.9	23.2	20.9	21.7	18.5	17.1	38.7	11.2	18.7	38.6	45.9	21.1	293.4
1973–4	25.4	30.1	9.9	31.8	19.4	12.0	31.2	14.3	15.8	15.7	18.6	30.3	254.5
1974–5	.5	9.5	37.3	10.2	16.8	2.5	9.1	11.4	13.0	9.5	5.9	16.6	128.6
1975–6	12.6	22.6	20.4	22.8	8.5	12.8	22.4	15.4	15.2	9.6	23.1	15.3	187.2
1976–7[1]	22.2	11.1	15.3	15.8	8.6	12.0							163.5
1977–8[1]	23.9	22.9	13.7	10.9	8.9	3.8	15.4	15.8	23.9	21.2	42.5	21.5	224.7
1978–9[1]	6.1	31.5	14.0	10.4	16.5	14.5	16.1	70.2	21.6	22.0	24.2	20.8	267.9
1979–0[1]	25.6	14.6	26.6	7.4	18.2	16.6							

[1] Preliminary. *Source: Bureau of the Census*

U.S. Stocks of Linseed Oil (Crude & Refined) at Factories & Warehouses In Millions of Pounds

Year	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1
1969–0	131.4	121.3	113.1	118.8	130.7	132.0	128.8	129.0	132.6	130.4	133.8	130.4
1970–1	128.7	112.8	117.1	130.0	134.9	144.9	148.5	157.4	170.5	180.7	192.8	187.2
1971–2	203.8	193.2	177.1	179.9	203.7	210.8	224.9	236.7	245.3	263.5	280.9	275.3
1972–3	276.6	263.8	253.3	259.2	258.4	246.3	253.6	225.3	224.1	177.3	153.0	127.1
1973–4	113.0	86.4	71.6	90.3	85.8	86.3	82.2	70.1	64.7	65.3	66.4	70.8
1974–5	59.2	69.4	60.2	48.2	58.9	47.6	71.5	69.2	67.0	56.0	49.8	48.6
1975–6	43.8	36.7	30.1	37.8	49.5	47.6	55.8	44.1	44.0	46.3	51.7	48.9
1976–7[1]	47.6	42.7	48.0	53.5	58.1	59.7	70.2					
1977–8[1]		74.0	69.0	79.2	72.6	74.2	89.2	93.2	92.0	74.8	76.3	69.6
1978–9[1]	62.6	75.6	49.9	44.8	34.4	34.8	34.9	34.8	35.5	37.4	43.6	43.9
1979–0[1]	49.1	39.9	47.7	62.9	46.3	43.6	35.7	41.8	36.3			

[1] Preliminary. *Source: Bureau of the Census*

Factory Shipments of Paints, Varnish and Lacquer in the U.S. In Millions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	179.0	197.6	241.2	236.0	251.8	281.1	255.8	254.7	256.4	220.6	185.9	177.0	2,737
1971	180.4	198.2	235.6	253.0	258.2	291.6	254.1	274.0	266.8	226.8	208.9	183.3	2,831
1972	209.6	226.0	261.0	252.7	285.8	292.4	257.6	286.4	269.0	254.0	224.7	190.0	3,009
1973	220.2	229.2	257.2	268.9	294.4	297.5	279.4	301.7	272.5	274.3	240.0	197.8	3,133
1974	243.8	246.3	279.5	315.9	342.3	349.5	345.5	363.8	338.8	343.2	280.4	223.3	3,672
1975	265.0	267.5	302.2	334.1	362.9	391.6	373.4	387.1	384.6	364.0	318.2	276.0	4,027
1976	305.0	361.0	396.2	419.1	434.0	477.3	423.6	455.4	420.7	370.7	342.9	280.0	4,686
1977[1]	285.9	311.9	393.1	377.8	429.7	445.5	393.6	445.1	410.7	368.3	350.5	305.9	4,518
1978[2]	319.1	341.1	500.6	517.1	589.0	586.2	518.4	589.0	536.0	516.6	470.2	403.3	6,008
1979[1]	476.1	484.0	622.0	574.1	677.8	668.3	638.4	678.4	590.3	648.5	526.8	448.1	7,033
1980[1]	535.8												

[1] Preliminary. [2] New series; not comparable with earlier data. *Source: Bureau of the Census*

Gas

Domestic production and consumption of natural gas in 1979 in the U.S. was expected to have increased approximately 2 percent from 1978. As the 1980 Commodity Year Book went to press the 1979 figures were in the process of being revised and were unavailable. In 1978, the Department of Energy (DOE) estimated U.S. production of natural gas at 19,122 billion cubic feet (bcf) and U.S. consumption at 19,974 bcf.

According to the DOE, total quantity of natural gas in U.S. storage facilities as of December 31, 1979 stood at 6,297 bcf, of which 3,537 bcf was base gas and 2,760 bcf was working gas. This compares with 5,999 bcf of total gas of which 3,459 bcf was base gas and 2,540 bcf was working gas as of December 31, 1978. Base gas is the volume of gas needed as a permanent inventory to maintain adequate reservoir pressure and deliverability rates throughout the withdrawal season. The withdrawal season is the period when storage withdrawals are greater than storage injections, and typically runs from October to February or March. Working gas is the difference between total gas and base gas, which is available for withdrawal.

Domestic producer sales of natural gas in 1979 to major interstate pipeline companies were estimated by the DOE at 10,496 bcf, up 6 percent from 1978. This was the first year-to-year increase in producer sales since the early 1970's.

Foreign Trade

Imports of natural gas during 1979 were estimated by the DOE at 1,241 bcf vs. 988 bcf in 1978. Receipts of foreign natural gas in 1979 included 256 bcf of Algerian liquified natural gas (LNG), up almost 100 percent from 1978. Tanker unloads of LNG at the large-scale receiving terminals at Cove Point, Maryland and Elba Island, Georgia totaled 92 in 1979 up from 28 in 1978. Two-thirds of the shipments were to Cove Point. Smaller amounts of LNG arrived at Everett, Mass. However, LNG shipments have been halted by the Algerian government in a impasse over prices as of April 1, 1980.

Imports of Mexican gas began in mid-January 1980 at the rate of 300 million cubic feet per day.

Prices

Natural gas prices increased sharply in 1979. According to Federal Power Commission data, average prices for purchases from domestic producers (who are subject to governmental regulation) rose from 83.9 cents per thousand cubic feet in 1978 to 121.6 cents per thousand cubic feet in 1979. The January 1980 price was 141.3 cents per thousand cubic feet.

Purchase prices for imported natural gas also rose sharply in 1979 and continued to rise into 1980. In 1978, Canadian natural gas cost an average of 214.6 cents per million British Thermal Units (BTU), and LNG sold for an average of 214.9 cents per million BTUs. At press time the DOE had not yet published average prices for 1979. However, in May 1980, both Mexican and Canadian natural gas were being imported at 447 cents per million BTUs. In energy content, Mexican and Canadian natural gas have slightly over one million BTUs per thousand cubic feet while LNG runs about 1400 cubic feet per million BTUs.

World Natural Gas Production (Marketed Production[3]) In Billions of Cubic Feet

Year	Argentina	Canada	France	Germany		Iran	Italy	Mexico	Netherlands	Poland	Romania	United Kingdom	United States	USSR	Venezuela	Total
				East	West											
1970	212	2,277	243	14	460	71	465	481	1,107	183	884	398	21,921	6,990	349	37,590
1971	228	2,499	252	101	555	299	473	479	1,536	190	892	657	22,493	7,501	368	40,282
1972	218	2,914	260	179	637	448	501	496	2,052	206	976	939	22,532	7,816	388	43,525
1973	238	3,119	262	248	706	702	541	542	2,495	213	980	1,018	22,648	8,346	460	46,144
1974	256	3,046	269	273	713	787	540	561	2,957	203	1,012	1,230	21,601	9,201	476	47,179
1975[1]	272	3,076	260	257	639	771	514	584	3,208	211	1,132	1,274	20,109	10,206	450	47,518
1976[2]	259	3,067	250	280	658	794	552	578	3,436	237	1,054	1,316	19,952	11,335	480	49,459
1977[2]		3,120							3,580				20,025	12,600		50,900
1978[2]													19,661			

[1] Preliminary. [2] Estimate. [3] Comprises all gas collected & utilized as fuel or as a chemical industry raw material, including gas used in oilfields and/or gasfields as a fuel by producers. *Source: U.S. Bureau of Mines*

Salient Statistics of Natural Gas in the United States

Year	In Billions of Cubic Feet: Supply				In Billions of Cubic Feet: Disposition						Value		Jan. Avg. Price of Residential Gas—$ Per 10 Therms		
	Marketed Production	Withdrawals[4]	Imports (Consumed) (Bil. Nat. Gas Cu. Ft.)	Total Supply	Consumption	Exports	Stored	Extraction Loss	Adjustments	Total Disposition	At Wells[3] Million $	¢ Ths cu. ft. At Wells	Kansas City	New York	U.S. Avg.
1967	18,171	1,133	564	19,868	18,173	82	1,317		296	19,868	2,899	16.0	.575	1.305	.831
1968	19,322	1,330	652	21,304	19,460	94	1,425		325	21,304	3,169	16.4	.569	1.290	.838
1969	20,698	1,379	727	22,805	20,923	51	1,499		332	22,805	3,456	16.7	.609	1.299	.844
1970	21,921	1,459	821	24,200	20,046	70	1,857		228	24,200	3,746	17.1	.681	1.320	.874
1971	22,493	1,508	935	24,935	22,677	80	1,839		339	24,935	4,085	18.2	.669	1.363	.920
1972	22,532	1,757	1,019	25,308	23,009	78	1,893		328	25,308	4,180	18.6	.717	1.568	1.010
1973	22,648	1,533	1,033	25,213	22,966	77	1,974		196	25,213	4,894	21.6	.720	1.660	1.047
1974	21,601	1,701	959	24,260	21,223	77	1,784	887	289	24,260	6,573	30.4	.771	1.887	1.133
1975	20,109	1,760	953	22,821	19,538	73	2,104	872	235	22,821	8,945	44.5	.929	2.293	1.379
1976	19,952	1,921	964	22,837	19,946	65	1,756	854	216	22,837	11,572	58.0	105.3	3.015	1.943
1977[1]	20,025	1,750	1,011	22,786	19,521	56	2,307	863	41	22,786	15,834	79.0			
1978[2]	19,974	2,158	966	23,097	19,627	53	2,278	852	287	23,097	18,085	90.5			
1979[2]	19,723		1,241			50									
1980															

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[1] Preliminary. [2] Estimate. [3] Total value of market production at the wellhead. [4] Withdrawals from underground storage.
Source: Bureau of Mines

Natural Gas Consumed[2] in the United States   In Billions of Cubic Feet

Year	Arkansas	California	Illinois	Kansas	Louisiana	Michigan	Missouri	New Mexico	New York	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	U.S. Total
1967	299	1,946	962	481	1,510	689	361	302	589	963	500	679	3,919	165	18,173
1968	325	2,079	1,008	526	1,662	704	366	309	640	988	552	718	4,154	189	19,460
1969	353	2,079	1,099	583	1,942	779	399	302	684	1,032	603	766	4,325	178	20,923
1970	385	2,156	1,188	615	2,034	811	430	323	711	1,053	656	772	4,559	192	22,046
1971	336	2,177	1,243	647	2,079	853	429	323	717	1,087	667	802	4,813	189	22,677
1972	318	2,210	1,221	669	2,138	867	425	342	693	1,148	686	829	4,883	209	23,009
1973	329	2,063	1,164	648	2,217	922	427	313	683	1,104	673	783	5,088	196	22,966
1974	291	1,852	1,163	630	2,203	938	410	312	627	1,087	723	716	4,912	192	22,111
1975	259	1,858	1,108	541	1,978	887	370	296	577	957	729	654	4,380	168	20,410
1976[1]	250	1,771	1,188	556	2,216	895	380	341	596	1,006	812	714	4,404	159	20,801
1977[1]															19,521
1978[1]	221	1,563	1,175	319	2,249	790	359	214	570	930	770	674	4,211	152	19,627
1979															

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[1] Preliminary. [2] Includes volume of natural gas which is distributed as a component of mixed gas. *Source: Bureau of Mines*

United States Marketed Production[1] of Natural Gas   In Billions of Cubic Feet

Year	Arkansas	California	Kansas	Alaska	Louisiana	Mississippi	Montana	New Mexico	Ohio	Oklahoma	Pennsylvania	Texas	West Virginia	Wyoming	U.S. Total
1967	117	681	872	89	5,717	139	26	1,068	41	1,413	90	7,189	211	240	18,171
1968	157	715	836	89	6,416	135	19	1,164	43	1,391	88	7,495	237	248	19,322
1969	169	678	883	81	7,228	131	41	1,138	50	1,524	79	7,853	232	304	20,698
1970	181	649	900	78	7,788	126	43	1,139	52	1,595	77	8,358	242	339	21,921
1971	172	613	885	73	8,082	119	33	1,168	80	1,684	76	8,551	234	380	22,493
1972	167	487	889	126	7,973	104	33	1,216	90	1,807	74	8,658	215	375	22,532
1973	158	449	893	131	8,242	100	56	1,219	94	1,771	79	8,514	209	358	22,648
1974	124	365	887	129	7,754	79	55	1,245	92	1,639	83	8,171	202	327	21,601
1975	116	318	844	160	7,091	70	41	1,217	85	1,605	85	7,486	154	316	20,109
1976	110	354	829	166	7,007	71	43	1,231	89	1,727	89	7,192	153	329	19,952
1977	104	311	781	188	7,215	83	47	1,203	99	1,770	92	7,051	153	330	20,025
1978	107	311	854	203	7,476	107	47	1,174	114	1,774	98	6,548	149	357	19,974
1979[2]	113	319	798	222	7,205	146	53	1,176		1,835		6,621	151	254	19,723
1980															

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[1] Comprises gas either sold or consumed by producers, including losses in transmission, quantities added to storage and increases of gas in pipelines. [2] Preliminary. *Source: Bureau of Mines*

United States Recoverable Reserves and Deliveries[5] of Natural Gas In Billions of Cubic Feet

Year	Recoverable Reserves of Natural Gas Dec. 31[3]	Residential Deliveries[5]	Commercial Deliveries[5]	Industrial Deliveries[5] Field	Carbon Black	Petroleum Refineries	Used as Pipeline Fuel	Other Industrial	Total Industrial	Total Deliveries[5]	Electric Utility Power[2] Plants
1967	292,908	4,313	1,717	1,926	109	936	576	5,879	12,168	18,198	2,743
1968	287,350	4,450	1,801	2,065	105	974	591	6,330	13,209	19,460	3,144
1969	275,109	4,728	1,955	2,212	98	998	631	6,814	14,240	20,923	3,486
1970	290,700	4,837	2,057	2,305	86	1,029	722	7,116	15,152	22,046	3,894
1971[1]	278,806	4,972	2,173	2,297	59	1,063	743	7,373	15,532	22,677	3,993
1972[4]	266,085	5,144	2,279	2,364	59	1,071	766	7,364	15,597	23,009	3,979
1973[4]	249,950	4,994	2,283	2,412	50	1,074	728	7,929	15,798	22,966	3,605
1974[4]	237,132	4,786	2,263		40	1,040	669			22,111	3,429
1975[4]	228,200	4,924	2,268		26	946	583			20,410	3,147
1976[4]	216,026	5,051	2,383		28	919	548			20,801	3,078
1977[4]	208,878										
1978[4]	203,000										
1979[4]	194,600										

[1] Preliminary. [2] Figures include gas other than natural (impossible to segregate); therefore, shown separately from other consumption. [3] Estimated proved recoverable reserves. [4] Estimated. [5] Data prior to 1968 are FOR CONSUMPTION.
Source: Bureau of Mines

Total Sales of All Types[2] of Gas To All Consumers in the United States In Millions of Therms

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	15,028	14,261	14,298	11,839	10,642	9,119	8,291	8,223	8,296	9,236	11,516	14,113	134,862
1968	16,710	15,892	15,561	12,419	11,009	9,788	9,070	8,784	8,807	9,556	11,854	15,254	144,704
1969	17,844	16,400	16,368	13,753	11,240	10,089	9,882	9,545	9,466	10,306	12,899	16,105	153,897
1970	18,658	17,330	16,630	15,277	12,257	10,543	10,135	10,202	10,075	10,811	12,837	15,664	160,419
1971	18,868	18,735	17,690	15,586	13,117	11,447	10,528	10,369	10,232	11,004	13,052	16,179	166,795
1972	18,331	19,081	17,591	15,451	13,006	11,735	10,578	11,277	10,963	11,218	13,809	17,991	171,082
1973	19,094	17,528	16,453	15,001	13,321	11,438	11,048	10,690	10,631	11,365	13,067	15,163	164,799
1974	18,476	17,072	16,307	14,936	12,516	11,199	10,508	10,349	9,923	11,152	12,198	15,367	160,003
1975	17,095	16,336	15,884	14,553	11,208	9,448	9,247	9,348	9,354	10,092	11,028	15,036	148,629
1976	17,975	16,446	14,510	12,252	10,998	9,656	9,131	9,008	8,991	9,964	12,783	16,147	148,135
1977	19,019	16,827	14,257	11,684	9,748	9,045	8,758	8,665	8,607	9,767	11,535	15,498	143,409
1978[1]	17,798	18,194	15,989	12,420	10,364	9,105	8,213	8,090	8,086	9,204	11,531	15,503	144,497
1979[1]	55,240			34,730			8,213	8,090	8,086	9,204	11,531	15,503	147,480
1980							28,700						

[1] Preliminary. [2] Natural, Manufactured and Mixed Gas. *Source: American Gas Association*

Gas Utility Sales in the United States by Types & Class of Service In Millions of Therms

Year	Total Utility Sales	Type of Gas Natural	Mfg.	Mixed	No. of Cust. (Mil.)	Class of Service Residential	Commercial	Industrial	Other	Revenue—Mil. $ Residential	Commercial	Industrial	Other
1967	134,883	133,424	86	1,352	39.1	43,653	15,776	70,143	5,311	4,383	1,224	2,461	193
1968	144,724	143,233		1,501	39.9	45,527	17,049	75,951	6,197	4,567	1,315	2,675	223
1969	153,916	152,374		1,536	40.9	48,204	18,781	81,358	5,573	4,883	1,459	2,919	219
1970	160,435	160,930		1,482	41.5	49,237	20,006	84,392	6,740	5,207	1,620	3,181	274
1971	166,857				42.2	50,401	21,555	86,455	8,447	5,635	1,829	3,569	324
1972	170,821				43.0	51,418	22,757	87,757	8,880	6,094	2,064	3,943	364
1973	164,799				43.7	49,936	22,808	83,708	8,347	6,247	2,172	4,197	371
1974	160,003				44.3	48,648	22,934	81,532	6,890	6,899	2,539	5,391	413
1975	148,629				44.6	49,910	23,868	68,371	6,480	8,445	3,303	6,718	608
1976	148,135				44.9	50,142	24,226	71,070	2,696	9,941	4,075	9,374	311
1977	143,409				45.7	49,463	24,094	67,107	2,746	11,541	4,980	11,385	397
1978[1]	147,480				46.0	51,070	25,000	68,410	3,010	12,939	5,696	13,065	451
1979[2]	152,000				46.3	52,000	28,000	75,000	3,400	13,500	6,500	16,000	600
1980													

[1] Preliminary. [2] Estimate. *Source: American Gas Association*

Glass

The primary products of the flat glass industry—float, laminated and tempered glass—are largely used by the automobile and housing industries. Both of those industries operated at high levels during 1979, when total flat glass product shipments were valued at $2.1 billion. However, the outlook for the automobile and construction industries was not as favorable in 1980 because of record high interest rates and a projected slowdown in the economy.

The long-range outlook for flat glass consumption by the auto industry is unfavorable. Because of escalating fuel costs and government-mandated mileage requirements, the industry is moving toward the production of smaller and lighter vehicles. This has resulted in less glass area per car and thinner glass per window. However, the longer-range outlook for the construction industry is favorable because of increased use of flat glass for storm windows and insulated window units.

While total flat glass shipments were expected to increase only 2 percent or less in 1980, the annual real compound growth rate for the flat glass industry was expected to be 3.5 percent for the five years ending in 1984.

All Flat Glass Mfgr's Shipments in the U.S., by Quarters In Millions of Dollars

Year	1st	2nd	3rd	4th	Total
1972	131.0	131.4	137.2	145.4	544.9
1973	142.3	147.2	150.6	157.6	597.6
1974	146.0	149.5	135.4	112.6	543.4
1975	85.7	105.2	131.1	145.9	468.0
1976	153.8	160.1	159.5	171.4	644.8
1977[1]	165.6	182.8	192.8	198.8	739.9
1978[1]	202.6	210.6	202.5	213.3	829.4
1979[1]	210.2	205.3	216.1		

[1] Preliminary. *Source: Bureau of Census*

Wholesale Price of Window (Single B[1]) Glass In Dollars Per 50 Square Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1972	7.364	7.364	7.364	7.360	7.269	7.269	7.269	7.269	7.269	7.269	7.269	7.269	7.300
1973	7.269	7.269	7.720	7.720	7.720	7.720	7.720	7.720	7.720	7.720	8.428	8.658	7.782
1974	8.658	8.658	8.658	8.658	8.658	8.658	8.658	8.658	9.947	9.751	9.751	9.751	9.039
1975	9.751	9.751	9.751	10.143	10.143	9.555	7.806	7.806	7.806	8.279	8.208	8.208	8.934
1976	8.208	8.208	9.178	9.178	9.178	9.178	9.178	9.178	9.178	9.178	9.178	9.178	9.016
1977	9.300	9.553	9.553	9.553	9.675	9.675	9.675	9.675	9.675	10.023	10.390	10.390	9.761
1978	10.390	10.390	10.390	10.863	10.863	10.863	10.998	10.998	10.998	10.998	10.998	11.138	10.824
1979	11.138	N.A.	N.A.	N.A.	11.444	N.A.	N.A.	11.870	12.030	12.145	12.436	N.A.	11.844
1980	N.A.	124.36											

[1] 40 bracket, mfg. to jobber, carlots; f.o.b. factory freight prepaid. *Source: Bureau of Labor Statistics* (1311-0207.04)

United States Production of Glass Containers In Millions of Gross

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1972	20.4	21.8	23.2	21.9	23.2	24.5	22.7	24.6	21.2	24.4	21.0	18.6	268.5
1973	22.4	22.4	25.2	23.2	24.9	24.6	23.1	24.5	22.3	24.8	21.3	20.4	279.0
1974	24.4	20.8	25.1	23.4	23.1	25.3	25.0	26.0	22.8	25.7	21.6	17.1	280.4
1975	22.7	21.4	22.9	23.0	23.1	24.3	25.3	25.3	25.2	27.0	22.9	19.9	283.1
1976	23.8	24.1	26.2	24.7	26.2	26.6	25.1	28.6	24.3	27.6	24.2	21.0	302.5
1977	22.6	24.3	28.1	24.4	25.7	27.1	26.5	29.5	21.3	25.8	26.5	21.6	303.5
1978	26.0	25.4	28.9	28.8	29.2	28.8	26.9	29.4	26.2	30.0	25.7	21.4	327.6
1979	26.1	26.1	29.3	27.6	28.8	28.6	27.3	28.7	23.5	28.6	26.0	21.3	322.0
1980	27.2												

Source: Bureau of the Census

United States Shipments (Domestic) of Glass Containers In Millions of Gross

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1972	19.3	20.3	26.1	19.3	23.7	24.4	21.5	25.2	22.1	22.1	20.8	20.1	266.0
1973	21.4	19.6	23.6	22.0	26.6	24.0	21.8	26.4	22.7	23.5	21.8	20.9	274.3
1974	23.7	22.7	28.6	22.6	19.8	22.2	24.6	27.7	22.1	21.1	19.4	19.1	273.7
1975	24.2	17.9	21.3	22.6	23.8	25.4	29.5	23.8	23.5	23.9	21.0	22.2	279.0
1976	22.6	21.5	31.4	20.4	24.1	25.3	24.6	27.3	27.7	22.7	21.8	22.9	292.3
1977	22.2	22.5	34.2	21.2	23.9	26.5	24.5	35.4	23.8	21.6	23.4	25.7	304.8
1978	21.1	22.0	27.4	26.5	34.0	27.2	24.5	29.5	27.7	27.4	25.5	22.8	317.4
1979	24.6	23.0	31.0	25.2	28.1	27.1	25.6	29.4	25.1	27.6	27.0	23.3	317.0
1980	25.0												

Source: Bureau of the Census

Gold

The ongoing shift into gold from currencies in response to oil-based monetary and inflationary considerations continued in 1979, with the pace quickened by increasing tension in the Persian Gulf area.

The price of gold began 1979 at $227.10 per troy ounce, dropped to the low of $217.15 on January 15, then rose to a high for the year of $517.00 on December 27 and ended the year at $512.40 per troy ounce. The rise continued into January, reaching a high of $850 (Engelhard Industries, New York) on January 21, 1980. Prices later declined to less than $500 per troy ounce by mid-April 1980.

World mine production of gold in 1979 was estimated by the U.S. Bureau of Mines at 40.9 million ounces, up 2.7 percent from 1978 output. However, U.S. production of gold declined 9 percent in 1979 to 0.91 million troy ounces as producers took advantage of the higher gold prices to mine leaner ores. Domestic consumption in 1979 was just under 5.0 million ounces. Imports of gold, excluding coins, amounted to 3.9 million ounces in 1979, of which 40 percent came from the USSR, 38 percent from Canada and 12 percent from Switzerland. Imports of coins were estimated at 3.8 million ounces, of which two-thirds were South African Krugerrands. In addition, 4.1 million ounces were delivered from the International Monetary Fund's monthly auctions, and 13.3 million ounces were delivered from auctions held by the U.S. Treasury Department. Exports of about 15.6 million ounces went mainly to the United Kingdom, Switzerland, and Canada.

The U.S. Department of the Treasury offered 1.5 million ounces per month for the first 4 months of 1979 and 0.75 million ounces per month for the following 6 months. Thereafter, Treasury varied the size and timing of sales, selling 1.25 million ounces on November 1 at an average price of $372.30 per ounce. This was the last Treasury sale recorded as of early May, 1980. Total sales for the year were 11.75 million ounces. Much of the bullion was purchased by European banks and exported from the United States. In June, the International Monetary Fund (IMF) reduced the amount offered at its monthly bullion auctions from 470,000 ounces to 444,000 ounces. IMF sales for 1979 totaled 5.46 million ounces, of which 4.10 million ounces were delivered in the United States. The U.S. futures market remained strong in 1979, and volume traded reached a billion ounces for the year.

The IMF auctioned 444,000 troy ounces of gold at an average price of $712.12 at its February 6, 1980 gold sale. The average price dropped to $641.23 at its March sale and to $484.01 at the April sale before ending its 4-year series for 25 million ounces at its May 7 sale with an average price of $504.90 per ounce. As of early May, no decision had been made on disposal of the remaining 103 million troy ounces of gold reported held by the IMF.

Stocks of gold in the U.S. Treasury at the end of 1979 totaled 263 million ounces, down from 276 million a year earlier. Industry stocks at the end of the year were about 0.9 million ounces and futures exchange stocks totaled about 2.4 million ounces.

Futures Markets

Gold futures are traded in the United States on 5 exchanges: The Commodity Exchange, Inc., of N.Y. (COMEX); the International Monetary Market (IMM) of the Chicago Mercantile Exchange; the Chicago Board of Trade; the MidAmerica Commodity Exchange; and the N.Y. Mercantile Exchange.

World Production of Gold (Mine Output) In Thousands of Fine Ounces (Troy Ounces)

Year	Australia	Zaire (Congo)	Canada	Colombia	Ghana	India	Japan	Mexico	Nicaragua	Philippines	Rhodesia	South Africa	United States	U.S.S.R.[1]	Total World[1]
1969	722	176	2,545	219	707	109	246	181	120	571	480	31,276	1,733	6,250	46,612
1970	620	181	2,409	202	708	104	255	198	115	603	500	32,164	1,743	6,500	47,522
1971	672	172	2,243	189	698	119	255	151	121	637	502	31,389	1,495	6,700	46,495
1972	755	141	2,079	188	724	106	243	146	112	607	502	29,245	1,450	6,900	44,843
1973	554	134	1,954	216	723	105	188	133	85	572	800	27,495	1,176	7,100	43,297
1974	513	131	1,698	265	614	101	140	134	83	538	800	24,388	1,127	7,300	40,124
1975	527	103	1,654	309	524	91	144	145	70	503	600	22,938	1,052	7,500	38,476
1976	503	103	1,692	298	532	101	138	163	76	501	600	22,936	1,048	7,700	39,089
1977[2]	621	82	1,717	257	481	92	170	213	66	560	600	22,502	1,100	7,850	38,966
1978[1]			1,700									22,700	965		39,800
1979[1]			1,700									23,400	910		40,900

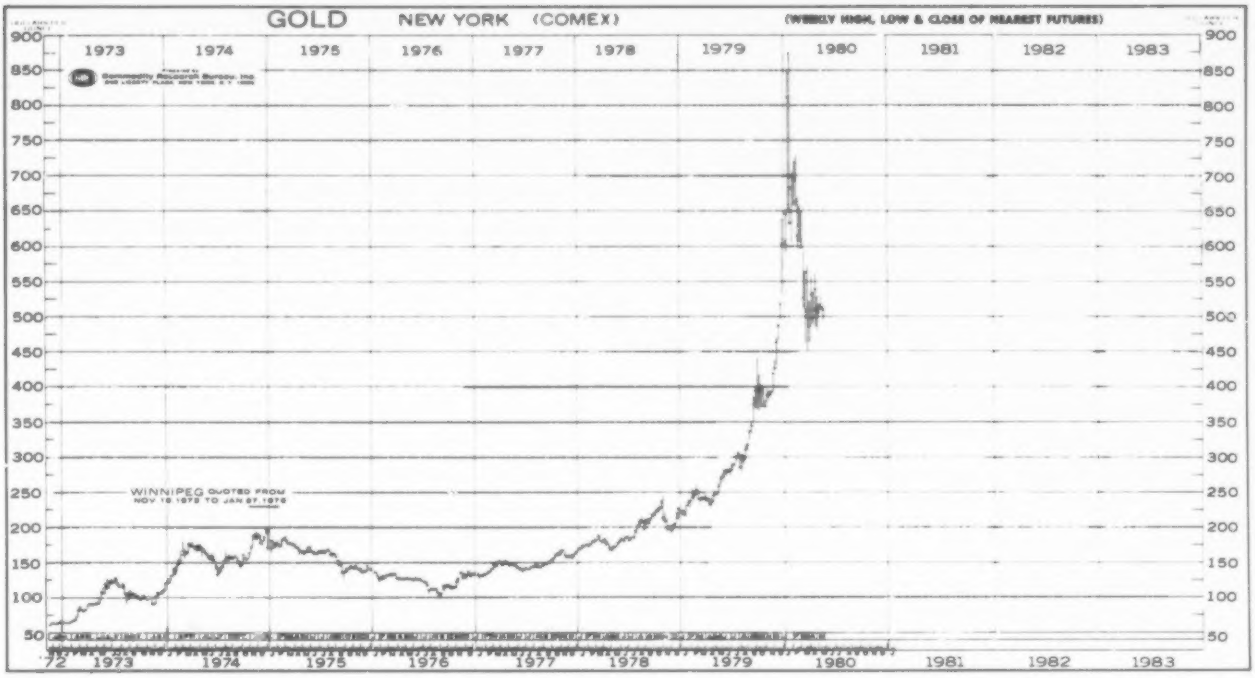
[1] Estimated. [2] Preliminary. *Source: U.S. Bureau of Mines*

Monthly Average Gold Price (Unfabricated)—Engelhard Industries $ Per Troy Oz.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1975	176.8	180.0	178.6	170.3	167.9	164.7	165.7	163.5	144.1	143.3	143.3	139.8	161.49
1976	125.3	131.7	133.1	128.4	127.4	126.2	118.0	110.1	114.7	116.6	131.4	134.4	124.77
1977	132.9	136.7	148.7	149.7	147.2	141.5	144.0	145.5	150.1	159.4	162.8	161.1	148.31
1978	173.7	178.6	184.1	175.8	176.5	184.1	189.3	206.3	212.4	227.7	206.2	208.1	193.55
1979	227.6	245.8	242.4	239.1	257.6	275.4	295.3	301.7	357.2	392.0	392.6	463	307
1980[1]	680	665	554	517									

[1] Estimate. *Source: U.S. Bureau of Mines*

GOLD



Salient U.S. Gold Statistics In Thousands of Troy Ounces

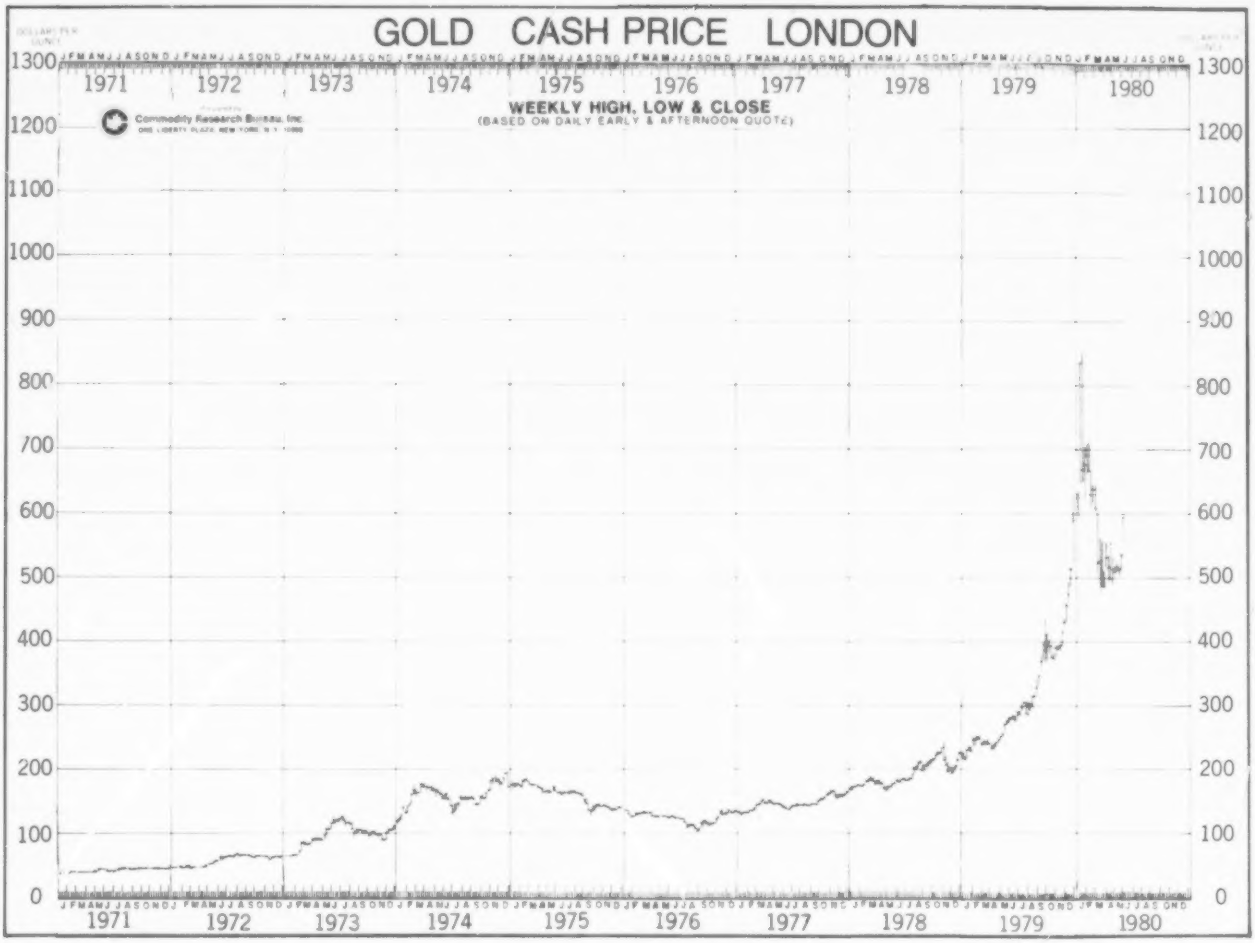
Year	Mine Production	Value Mil. $	Refinery Prod. New (Domestic)	Refinery Prod. Secondary	Exports[2]	General Imports[2]	Stocks, Dec. 31 Monetary Bil. $	Stocks, Dec. 31 Industrial	Consumption Dental	Consumption Industrial[3]	Consumption Jewelry & Arts	Consumption Total	Price $ Per Troy Oz.[4]
1968	1,478	58.0	1,539	N.A.	23,962	5,944	10.89	3,617	771	1,925	3,908	6.604	39.26
1969	1,733	71.9	1,717	2,920	338	5,861	11.86	4,158	710	2,560	3,839	7,109	41.51
1970	1,743	63.4	1,750	2,780	1,074	6,652	11.07	3,984	658	1,975	3,340	5,973	36.41
1971	1,495	61.7	1,437	2,202	1,339	7,201	10.21	4,375	750	1,884	4,299	6,933	41.25
1972	1,450	85.0	1,478	2,107	1,472	6,126	10.49	4,407	750	2,191	4,344	7,285	58.60
1973	1,176	115.0	1,210	1,779	2,985	3,845	11.65	4,498	679	2,577	3,473	6,729	97.81
1974	1,127	180.0	1,021	1,926	3,963	2,651	11.65	5,670	509	1,740	2,402	4,651	161.08
1975	1,052	169.9	1,093	2,696	3,496	2,662	11.60	788	595	1,059	2,080	3,993	161.49
1976	1,048	131.3	954	2,504	3,531	2,656	11.60	928	694	1,233	2,562	4,648	125.32
1977[1]	1,100	163.2	956	2,454	8,671	4,454	11.72	1,976	656	1,205	2,658	4,859	148.31
1978[1]	999		1,033	1,384	5,509	4,690	11.67	1,672	706	1,313	2,651	4,738	193.55
1979[1]	877		878	1,681	16,491	4.630	11.11	960	626	1,401	2,600	4,672	307.50

[1] Preliminary. [2] Excludes coinage. [3] Including space & defense. [4] U.S. Treasury price thru Mar. 15, 1968; thereafter Engelhard selling quotations. *Source: Bureau of Mines*

U.S. Mine Production of Recoverable Gold In Thousands of Troy Ounces

Year	Alaska	Arizona	California	Colorado	Idaho	Montana	Nevada	New Mexico	South Dakota	Utah	Other States	Total U.S.
1969	21.2	110.9	7.9	25.8	3.4	24.2	456.3	9.0	593.1	433.4	47.0	1,733.2
1970	34.8	109.9	5.0	37.1	3.1	22.5	480.1	8.7	578.7	408.0	55.3	1,743.3
1971	13.0	94.0	3.0	42.0	3.6	15.6	374.9	10.7	513.4	369.0	55.9	1,495.1
1972	8.6	103.0	3.4	61.1	2.9	23.7	419.7	14.9	407.4	362.4	41.8	1,449.9
1973	7.1	102.8	3.6	63.4	2.7	27.8	260.4	13.9	357.6	307.1	29.2	1,175.8
1974	9.1	90.6	5.0	52.1	2.9	28.3	298.8	15.4	343.7	254.9	26.0	1,126.9
1975	15.0	85.8	9.6	55.5	2.5	17.3	332.8	15.0	304.9	189.6	24.2	1,052.3
1976	22.9	102.1	10.4	50.8	2.8	24.1	288.0	15.2	318.5	187.3	26.1	1,048.0
1977	19.0	90.2	5.7	72.7	12.9	22.3	324.0	13.6	304.8	210.5	24.0	1,100.3
1978[1]	18.7	93.0	7.5	32.1	20.5	20.0	260.9	9.9	285.5	235.9	14.6	998.8
1979[1]	3.2	100.2	7.7	15.1	26.4	26.1	179.4	15.2	247.6	235.4	17.1	877.3

[1] Preliminary. *Source: Bureau of Mines*


GOLD CASH PRICE LONDON

WEEKLY HIGH, LOW & CLOSE (BASED ON DAILY EARLY & AFTERNOON QUOTE)

Commodity Exchange Inc. (COMEX) Warehouse Stocks of Gold In Thousands of Ounces

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1975			301.6	428.7	328.1	442.3	465.8	527.0	562.6	590.6	559.2	517.1
1976	403.2	369.1	342.0	350.8	364.8	355.5	327.3	282.3	270.0	273.1	258.2	258.7
1977	291.8	364.2	359.0	379.9	409.3	454.1	466.7	522.4	601.8	601.2	946.4	1,788
1978	1,822	2,084	2,480	2,736	2,883	2,864	2,796	2,894	2,870	2,734	2,780	2,629
1979	2,604	2,566	2,540	2,501	2,286	2,443	2,700	2,480	2,509	2,512	2,281	2,277
1980	2,253	2,445	2,575	2,897	3,097							

Source: Commodity Exchange, Inc.—N.Y.

U.S. Monetary Stock of Gold at End of Month In Billions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1971	10.73	10.73	10.73	10.73	10.33	10.33	10.33	10.33	10.13	10.13	10.13	10.13
1972	10.13	9.59	9.59	9.59	10.41	10.41	10.41	10.41	10.41	10.41	10.41	10.41
1973	10.410	10.410	10.410	10.410	10.410	10.410	10.410	10.410	10.410	11.567	11.567	11.567
1974	11.567	11.567	11.567	11.567	11.567	11.567	11.567	11.567	11.567	11.567	11.567	11.652
1975	11.635	11.621	11.620	11.620	11.620	11.620	11.618	11.599	11.599	11.599	11.599	11.599
1976	11.599	11.599	11.599	11.598	11.598	11.598	11.598	11.598	11.598	11.598	11.598	11.598
1977	11.658	11.650	11.636	11.636	11.629	11.620	11.595	11.595	11.595	11.595	11.595	11.719
1978	11.718	11.718	11.718	11.718	11.718	11.706	11.693	11.679	11.668	11.655	11.642	11.671
1979	11.592	11.544	11.479	11.418	11.354	11.323	11.290	11.259	11.228	11.194	11.112	11.112
1980	11.172	11.172										

Source: Federal Reserve Board

Grain Sorghums

The national average loan rate for 1980 crop grain sorghum is $2.00 per bushel, and the target price is $2.50 per bushel. (However, for those growers who exceed their normal crop acreage, the target price will be $2.45 per bushel.

The reserve release price for sorghum is $2.50 per bushel. The call price for sorghum entered into the reserve prior to January 7, 1980, is $2.80 and for sorghum entered into the reserve after January 7, the call price is $2.90 per bushel. The minimum price at which the CCC can sell its inventory while the grain reserve is in operation (150 percent of current loan rates) is $3.00 per bushel.

There are no set-aside or diversion requirements for 1980 feedgrain crops. Farmers who complied with the 1979 sorghum set-aside program were eligible to receive deficiency payments at the rate of 13 cents per bushel, representing the difference between the $2.34 (revised) target price and the $2.21 average market price.

Salient Statistics of Grain Sorghums in the United States

Crop Year	Acreage Planted[2] for All Purposes 1,000 Acres	For Grain: Acreage Harv. 1,000 Acres	For Grain: Production 1,000 Bushels	For Grain: Yield Per Harv. Acre Bushels	For Grain: Price Cents Per Bushel	For Grain: Produc. Value 1,000 Dollars	For Silage: Acreage Harv. 1,000 Acres	For Silage: Production 1,000 Tons	For Silage: Yield Per Harv. Acre Tons	For Forage: Acreage Harv. 1,000 Acres	For Forage: Production 1,000 Tons	For Forage: Yield Per Harv. Acre Tons	Foreign Trade: Dom. Exports Ths. Bushels	Foreign Trade: Imports for Consumption Ths. Bushels
1969–0	17,231	13,437	729,919	54.3	107	771,510	798	9,360	11.7	2,600	[3]	[3]	105,510	5
1970–1	16,957	13,568	683,179	50.4	114	780,066	741	7,204	9.7	2,167			144,339	4
1971–2	20,756	16,142	867,997	53.8	105	904,748	1,011	10,998	10.9	2,675			103,915	—
1972–3	17,295	13,212	801,350	60.7	137	1,107,704	840	9,946	11.8	2,427			191,241	1
1973–4	19,231	15,700	923,224	58.8	214	1,995,150	836	9,520	11.4	2,093			244,314	21
1974–5	17,676	13,809	622,711	45.1	278	1,742,587	745	7,279	9.7	2,140			191,569	
1975–6	18,104	15,355	753,046	49.0	237	1,775,023	752	7,426	9.9	1,568			237,997	
1976–7	18,402	14,723	719,817	48.9	203	1,450,085	772	7,168	9.3	1,883				
1977–8	16,993	14,092	792,983	56.3	182	1,433,991	842	9,168	10.9	1,633				
1978–9[1]	16,468	13,561	747,790	55.1	202	1,501,737	715	7,768	11.7	1,577				
1979–0[1]	15,399	12,949	814,308	62.9	231	1,866,925	767	9,011		1,266				
1980–1[1]	16,100													

[1] Preliminary. [2] Grain and sweet sorghums for all uses including sirup. [3] Discontinued.
Source: Crop Reporting Board, U.S.D.A.

Production of All Sorghums for Grain in the United States, by States In Thousands of Bushels

Year	Iowa	Arizona	California	Colorado	Kansas	Missouri	Nebraska	New Mexico	No. Carolina	Oklahoma	South Dakota	Texas	Arkansas
1970	1,771	11,410	21,460	10,000	145,960	12,826	75,480	15,456	2,756	23,310	8,398	329,616	
1971	8,700	9,417	21,016	9,600	233,550	47,700	123,420	20,474	6,240	23,400	12,250	303,004	
1972	2,460	8,346	17,424	10,030	217,000	26,980	118,080	19,305	4,400	20,855	13,536	319,780	
1973	1,606	7,992	20,090	9,100	218,400	30,800	136,000	19,602	4,292	26,400	11,266	417,000	
1974	736	8,580	15,120	7,685	132,800	23,750	62,700	11,000	4,320	19,080	5,616	312,000	6,720
1975	1,612	8,160	14,904	7,540	144,060	28,090	104,500	15,500	4,335	19,760	6,422	374,400	9,800
1976	1,690	6,643	14,910	7,252	169,850	39,600	119,700	11,940	4,590	16,950	3,496	292,900	15,500
1977	2,368	7,200	9,636	8,153	243,000	67,890	146,970	11,760	2,664	21,470	16,807	230,400	13,104
1978	1,800	5,694	13,135	8,680	209,040	68,000	137,250	12,282	4,472	17,460	17,000	227,850	12,000
1979[1]	1,330	5,112	12,000	10,640	256,680	59,040	144,570	13,416	4,399	23,175	13,590	243,000	10,912

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

U.S. Exports of Grain Sorghums, by Country of Destination In Thousands of Bushels

Yr. Beg. October	Poland	Belg. & Luxem.	Portugal	Spain	Germany, West	India	Venezuela	Israel	Japan	Rep. of Korea	Netherlands	Norway	Mexico	United Kingdom	Total All Exports
1968–9	0	1,495		0	94	11,609		15,654	70,370	0	1,613	593	932	0	106,399
1969–0	0	6,444		0	11	104		21,177	83,908	0	5,702	0	1,078	0	125,444
1970–1	1,560	7,477		0	655	157		25,109	79,572	0	10,296	0	834	0	144,195
1971–2	—	390		—	1,284	298		19,863	68,069	1	5,155	—	6,629	2,475	122,932
1972–3	1,050	1,229		—	2,932	27,467		27,442	107,078	1,310	5,271	2,999	4,194	765	212,165
1973–4	1,000				2,100	12,100		23,100	117,700		22,300	3,800	10,600		234,100
1974–5	9,900	9,900		1,500	3,600	3,500		24,000	76,800		16,100	4,700	27,500	—	212,000
1975–6	22,700	18,900	6,300	3,000	3,100	19,600	16,300	25,600	88,000		13,500	4,400	1,600	700	229,000
1976–7	3,647	12,908	17,600	13,900	6	0	1,300	29,214	93,462		6,239	7,542	26,856	2,100	246,107
1977–8[1]	15,090	3,427	16,100	10,100	10	—	11,500	24,956	96,051		264	4,988	18,423	100	213,490
1978–9[2]															207,000

[1] Preliminary. [2] Estimate. *Source: Grain & Feed Division, U.S.D.A.*

U.S. Grain Sorghum Quarterly Supply and Disappearance in Millions of Bushels

Year & Periods Beginning Oct. 1	Supply				Disappearance							Ending Stocks		
					Domestic Use									
	Begin. Stocks	Production	Imports	Total Supply	Food	Alc. Beverages	Seed	Feed	Total	Exports	Total	Gov't. Owned[1]	Privately Owned[2]	Total Stocks
1975–6	35.0	753.0	[4]	788.0	1.2	2.8	2.3	501.3	507.6	229.0	736.6	—	51.4	51.4
Oct.–Dec.	35.0	753.0	—	788.1	.3	.7	—	250.1	251.1	63.4	314.5	—	473.5	473.5
Jan.–Mar.	473.5	—	—	473.5	.4	.6	.2	156.4	157.6	68.0	225.6	—	247.9	247.9
Apr.–May	247.9	—	—	247.9	.1	.6	1.4	71.7	73.8	20.4	94.2	—	153.7	153.7
June–Sept.	153.7	—	[4]	153.7	.4	.9	.7	23.1	25.1	77.2	102.3	—	51.4	51.4
1976–7	51.4	719.8	[4]	771.2	1.2	2.9	2.2	427.6	433.8	246.1	679.9	—	91.3	91.3
Oct.–Dec.	51.4	719.8	—	771.2	.3	.7	—	215.9	216.9	61.8	278.7	—	492.5	492.5
Jan.–Mar.	492.5	—	—	492.5	.4	.6	.2	111.6	112.8	83.1	195.9	—	296.6	296.6
Apr.–May	296.6	—	[4]	296.6	.2	.5	1.3	63.7	65.7	34.4	100.1	—	196.5	196.5
June–Sept.	196.5	—	—	196.5	.3	1.1	.6	36.4	38.4	66.8	105.2	—	91.3	91.3
1977–8	91.3	793.0	[4]	884.3	1.2	3.6	2.1	473.1	480.0	213.5	693.5	.9	189.9	190.8
Oct.–Dec.	91.3	793.0	—	884.3	.3	.8	—	208.1	209.2	56.0	265.2	—	619.1	619.1
Jan.–Mar.	619.1	—	—	619.1	.1	.9	.2	135.5	136.7	68.0	204.7	.2	414.2	414.4
Apr.–May	414.4	—	—	414.4	.2	.6	1.3	56.4	58.5	35.8	94.3	.2	319.9	320.1
June–Sept.	320.1	—	[4]	320.1	.6	1.3	.6	73.1	75.6	53.7	129.3	.9	189.9	190.8
1978–9[3]	190.8	747.8	[4]	938.6	1.5	3.2	2.3	565.6	572.6	206.6	779.2	41.6	117.8	159.4
Oct.–Dec.	190.8	747.8	[4]	938.6	.3	1.1	—	249.7	251.1	46.6	297.7	33.8	607.1	640.9
Jan.–Mar.	640.9	—	—	640.9	.4	.4	.2	152.4	153.4	68.3	221.7	39.1	380.1	419.2
Apr.–May	419.2	—	—	419.2	.2	.4	1.4	66.0	68.0	28.0	96.0	39.3	283.9	323.2
June–Sept.	323.2	—	[4]	323.2	.6	1.3	.7	97.5	100.1	63.7	163.8	41.6	117.8	159.4
1979–0[3]	159.4	814.3	—	973.7	1.0	4.0	2.0	560.7	567.7	275.0	842.7			131.0
Oct.–Dec.	159.4	814.3	—	973.7	.3	1.1	—	252.2	253.6	74.2	327.8	43.9	602.0	645.9
Jan.–Mar.														

[1] Uncommitted inventory. [2] Includes quantity under loan & farmer-owned reserve. [3] Preliminary. [4] Less than 50,000 bushels. *Source: Commodity Economics Division, U.S.D.A.*

Grain Sorghum Price Support Program & Market Prices

Year Beginning October	Price Support Operations (Million Bushels)								Support Loan	Target Price	No. 2 Yellow ($ Cwt.)			
	Placed Under Price Support								$ Per Cwt.					
	Loans	Purchase Agreements	Total	Redeemed by Farmers	Delivered to CCC	Resealed	Total Deliveries to CCC	Owned by CCC October 1			Kansas City	Fort Worth	Los Angeles	Gulf Ports
1970–1	30.5	—	30.5	25.0	—	5.5	2.0	63	1.61	—	2.42	2.73	2.99	2.73
1971–2	154.4	1	155		—			39	1.73	—	2.06	2.51	2.82	2.51
1972–3	29.8		40					5	1.79	—	3.81	3.75	4.16	3.75
1973–4	18.6							0	1.79	—	4.95	5.13	5.64	5.13
1974–5	3.9			4	0			0	1.88	—	5.04	5.62	6.12	5.47
1975–6	8.8			8	0			0	1.88	2.34	4.46	4.93	5.63	4.94
1976–7[1]	21			19	—			0	2.55	2.66	3.49	3.64	4.68	4.11
1977–8[1]	217			116	41			0	3.39	4.07	3.54	3.88	4.82	4.16
1978–9[1]	92			60	2			0	3.39	4.07	4.00	4.40		4.65
1979–0[2]	46			2	—				3.59	4.18	4.32	4.78		5.30

[1] Preliminary. [2] Estimate. *Source: Economic Research Service, U.S.D.A.*

Average Price of Sorghum Grain, No. 2, Yellow at Kansas City In Dollars Per 100 Pounds (Cwt.)

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
1969–0	2.08	2.06	2.05	2.06	2.04	1.96	2.00	1.96	2.03	2.09	2.18	2.29	2.07
1970–1	2.22	2.12	2.27	2.37	2.35	2.32	2.41	2.46	2.58	2.53	2.25	1.91	2.32
1971–2	1.80	1.91	2.06	2.06	2.07	2.07	2.09	2.08	2.09	2.11	2.05	2.21	2.05
1972–3	2.17	2.42	2.88	3.06	2.88	2.86	2.83	3.09	3.61	3.93	4.72	4.37	3.24
1973–4	4.37	4.31	4.37	4.71	4.99	4.64	4.03	3.84	3.99	5.02	5.79	5.64	4.64
1974–5	6.32	6.10	5.36	4.95	4.55	4.48	4.64	4.60	4.53	4.82	5.13	4.66	5.01
1975–6	4.53	4.36	4.33	4.36	4.47	4.62	4.47	4.49	4.66	4.73	4.29	4.27	4.46
1976–7	3.88	3.60	3.77	3.91	3.85	3.75	3.62	3.53	3.28	3.15	2.73	2.78	3.49
1977–8	3.05	3.40	3.36	3.37	3.49	3.78	3.92	3.92	3.82	3.54	3.41	3.43	3.54
1978–9[1]	3.61	3.67	3.64	3.71	3.73	3.77	3.81	3.92	4.41	4.89	4.44	4.34	4.00
1979–0[1]	4.42	4.41	4.57	4.21	4.35	4.20	4.09						

[1] Preliminary. *Source: Economic Research Service, U.S.D.A.*

Hard Fibers

World production of sisal and henequen in 1979 was expected to slip about 3 percent to 513,000 tonnes (metric tons) from 513,000 in 1978. Rising production costs and little change in prices paid to growers reduced incentives for growers to increase or maintain yields. Also, lack of sufficient labor on some Brazilian plantations, especially at harvest time, has become a frequent problem.

U.S. imports of sisal and henequen fell to 8,283 tonnes in 1979, because supplies from producing nations were tight throughout most of the year. Shipments of sisal from Brazil, principal supplier to the U.S. market, fell 38.2 percent to 4,906 tonnes from 7,935 in 1978 as Brazilian agricultural needs absorbed much of the production. Poor weather and a port fire in Tanzania compounded the supply situation.

While once, most raw hard fiber imports were spun into baler and binder twines by domestic mills, there is only one small U.S. manufacturer remaining. Much of the raw fiber now imported is used for padding and other non-twine uses.

However, rising prices for natural gas, the basic ingredient for synthetic fiber twines in the U.S., reversed any price advantage synthetics might have had. As a result, U.S. imports of sisal and henequen baler and binder twines increased to 113,108 tonnes in 1979 from 81,438 tonnes in 1978. Overall U.S. demand largely depends upon the hay harvest, which, if good, spurs consumption of both natural and synthetic twines.

Abaca production for 1979 also was expected to drop to 72,300 tonnes from 79,000 tonnes a year earlier. The Philippines and Ecuador account for virtually all of the world's commercial production. In the former, area planted to abaca has increased over the past six years, but farmers have been stripping less of the crop because of the poor prices they receive—particularly in remote producing areas.

U.S. imports of abaca, which mainly are used in the manufacture of specialty paper products, increased almost 12 percent to 24,702 tonnes in 1979. Average import values rose from $529.52 per tonne to $640.22, with year-end prices approaching $800 per tonne.

Imports of industrial twine and hard fiber cordages of sisal, henequen, abaca and coir (obtained from coconut husks) in 1979 totaled 19,539 tonnes, down slightly from 20,394 tonnes a year earlier. But the value of the imports rose to $19.5 million from $18.7 million.

World Production of Hard Cordage Fibers In Thousands of Metric Tons[2]

	Abaca				Sisal								Henequen		
Year	Philippines	Ecuador	Others	World Total	Tanzania	Haiti	Brazil	Angola	Malagasy Rep	Mozambique	Kenya	World Total	Mexico	Others	World Total
1968	168.8	*65-9*	*65-9*	179.8	434.1	24.0	429.9	125.7	*65-9*	71.2	110.7	1,333	288.0	*65-9*	318.0
1969	161.8	*Avg.*	*Avg.*	167.8	461.4	50.7	438.0	124.2	*Avg.*	66.2	109.8	1,391	298.0	*Avg.*	328.0
1970	179.2	*(1.0*	*(1.0*	184.2	445.8	42.0	452.0	115.2	*(14.0*	63.9	96.8	1,347	307.5	*(24.2*	335.5
1971	149.0	*M.T.)*	*M.T.)*	155.6	399.0	28.7	463.0	142.3	*M.T.)*	55.1	98.8	1,340	320.0	*M.T.)*	353.0
1972	161.4			169.1	346.0	31.1	573.2	150.0		48.5	90.8	1,400	320.0		357.0
1973[2]	82.2	4.6	1.0	87.8	155.4	17.0	260.0	70.0	22.0	23.0	70.0	653.0	155.0	16.0	171.0
1974	87.0	9.5	2.0	98.5	135.4	19.0	225.0	70.0	22.6	18.8	86.0	615.1	148.7	14.6	163.3
1975	46.1	9.9	1.5	57.5	123.0	12.0	185.0	40.0	21.0	15.0	43.6	477.0	115.0	14.0	129.0
1976	72.5	13.2	1.5	87.2	119.0	5.0	165.0	25.0	18.6	19.0	33.6	422.5	116.0	14.0	130.0
1977	67.8	12.8	1.0	81.6	105.0	6.0	170.0	20.0	18.8	18.0	32.2	407.5	102.0	14.0	116.0
1978[1]	66.0	12.0	1.0	79.0	125.0	7.0	165.0	20.0	16.0	18.0	31.5	420.0	94.0	14.0	108.0
1979[3]	62.5	8.8	1.0	72.3	125.0	8.0	155.0	18.0	15.0	17.0	32.0	407.0	92.0	14.0	106.0

[1] Preliminary. [2] Data prior to 1973 are in MILLIONS OF POUNDS. [3] Estimate.
Source: Office of Foreign Agricultural Relations, U.S.D.A.

Imports[2] of Hard Fibers into the U.S., by Country of Origin In Thousands of Metric[3] Tons

	Abaca (or Manila)				Henequen			Sisal						Kapok	
Year	Philippines	Indonesia	Central America	Total (All)	Mexico	Total (All)	Coir	Haiti	Brazil	Kenya	Tanzania, & Uganda	Mozambique	Total (All)	Total	Thailand
1969	19.4	.1	.1	21.4	20.8	20.8	2.4	8.6	15.0	—	7.1	.1	33.2	9.8	8.6
1970	19.0	—1.9—		21.2	26.8	26.8	2.8	7.0	13.8	—	9.7	—	31.8	11.5	10.6
1971	14.7	—1.4—		16.2	39.1	39.1	2.6	3.2	8.8	—	7.6	.3	21.8	12.2	11.2
1972	19.0	—2.0—		21.0	35.5	35.5	3.7	.4	6.8	—	4.5	.7	13.8	11.0	10.1
1973	17.7	—2.9—		20.5	17.5	17.5	5.6	3.3	7.5	—	2.1	—	14.3	13.6	13.3
1974	30.0	—6.2—		36.2	.6	.6	9.2	2.4	3.9	—	2.1	.1	9.6	10.1	9.8
1975	9.4	—9.1—		18.6			6.1	.6	5.4	—	.5	.6	8.8	6.3	6.2
1976	14.2	—8.0—		22.2	.3	.3	6.4	.2	7.1	—	4.0	1.6	14.5	7.5	7.5
1977[3]	14.3	—12.3—		26.7	.1	.1	8.6	—	9.1	1.3	1.0	.2	11.9	5.8	5.8
1978	13.9	—8.2—		22.1	.4	.4	9.7	.1	7.9	12.5	.7	0	21.5	6.3	6.2
1979[1]	16.5	—8.1—		24.7	.2	.2	10.5	.3	4.9	1.9	.3	.6	8.1	5.0	4.9

[1] Preliminary. [2] Imports for consumption. [3] Data prior to 1977 are in THOUSANDS OF LONG TONS.
Source: Dept. of Commerce

Hay

U.S. hay production for the 1979/80 crop year which began on May 1, 1979, was estimated at 143 million short tons, little changed from the 142.3 million tons estimated for the 1978/79 crop year. Acreage harvested declined slightly to 60.8 million acres from 61.5 million the previous season, but yield was estimated to have improved to a record 2.35 tons per acre from 2.31 tons in 1978/79.

Production of alfalfa and alfalfa mixtures was estimated at 86.2 million tons, down 1 percent from the 86.7 million tons produced a year earlier. But yield was estimated at a record 3.16 tons per acre, up from 3.13 tons in 1978/79. Production of all other hay was put at 56.8 million tons, up 2 percent from the previous season's 55.5 million tons. Yield was estimated at a record 1.69 tons per acre, compared with 1.64 tons in 1978/79.

Pasture and range conditions during the summer and fall of 1979 generally were better than they were in 1978 because of ample summer rains in many areas that were extremely dry in 1978 and because of fewer animals on range and pasture. Only limited supplemental hay feeding was needed during the summer. But on the eastern edges of the Rockies and the Plains areas of Colorado, Kansas, Nebraska and South Dakota, grasshopper infestations prompted state and federal agencies to carry out massive eradication programs to confine crop and range grass damage.

Hay disappearance from May 1, 1979, to January 1, 1980, was estimated at a record 69 million tons, 1 percent more than the previous mark of 68.2 million tons set during the same period a year earlier. Hay supplies for winter feeding were estimated at a record 158 million tons, and with the number of roughage-consuming animal units estimated at 88.2 million, the quantity available per unit also was estimated at a record high 1.96 tons.

U.S. hay supplies on farms totaled a record 107 million tons on January 1, 1980, up 9 percent from the previous record of 98.1 million tons set a year earlier. The record stocks were the result of the record production during 1979 and the record May 1, 1979, carryover of 24.1 million tons. The May 1, 1980 carryover was estimated at 29.9 million tons. Lower January hay stocks were reported by some New England and Northwest states, but 36 states reported higher inventories.

U.S. exports of alfalfa meal and hay cubes increased by 26 percent in 1978/79 to 583,668 tonnes (metric tons). Shipments of dehydrated alfalfa meal increased 39 percent to 109,017 tonnes, while sun-cured shipments fell 26 percent to 127,215 tonnes. Alfalfa shipments to Japan increased 15 percent to 349,463 tonnes, accounting for 60 percent of U.S. exports. Shipments to Canada nearly tripled to 64,346 tonnes. Exports of hay cubes increased 61 percent to 347,436 tonnes.

Salient Statistics of All Hay in the United States

Year Beginning May	Acres Harvested 1,000 Acres	Yield Per Acre Tons	Production	Carryover May 1	Disappearance	Farm Disposition		Supply Per Animal Unit	Disappearance Per Animal Unit	Animal Units Fed² Millions	Farm Price³ $ Per Ton	Farm Produc. Value Million $	Price Received by Farmers		
			Million Tons			Kept on Farms	Sold	In Tons					Alfalfa Seed	Timothy Seed	Red Clover Seed
													Dollars Per Cwt.		
1967–8	63,303	1.98	125.1	21.9	122.1	102.4	22.7	1.67	1.39	88.1	24.50	2,866	41.10	5.83	27.00
1968–9	60,922	2.04	124.2	24.9	125.4	101.2	23.0	1.70	1.43	87.5	23.60	2,822	37.90	8.65	30.70
1969–0	59,716	2.11	126.0	23.7	125.6	102.7	23.3	1.70	1.43	88.0	24.70	2,937	37.40	8.41	35.60
1970–1	61,467	2.07	127.0	24.1	128.9	102.6	24.4	1.68	1.43	89.9	26.10	3,078	35.50	7.12	31.50
1971–2	61,355	2.10	129.1	22.2	125.8	104.1	25.1	1.66	1.38	91.1	28.10	3,335	35.00	8.06	27.50
1972–3	59,680	2.15	128.6	25.5	129.8	102.8	25.8	1.65	1.39	93.2	31.30	3,729	43.60	15.60	40.80
1973–4	61,828	2.17	134.2	24.3	133.0	107.0	27.2	1.59	1.34	99.5	41.60	5,004	87.40	31.90	62.20
1974–5	60,195	2.10	126.4	25.4	133.3	100.9	25.5	1.46	1.28	103.8	50.90	5,791	83.20	21.20	58.30
1975–6	61,324	2.16	132.2	18.5	125.2	105.6	26.6	1.52	1.26	99.0	52.20	6,449	68.60	14.80	49.50
1976–7	60,311	1.99	120.0	25.5	126.0	94.4	25.6	1.52	1.32	95.8	60.30	6,811	102.00	27.50	63.20
1977–8	60,658	2.16	131.3	19.5	126.6	104.4	26.9	1.66	1.39	91.1	53.80	6,782	108.00	50.60	73.50
1978–9[1]	61,515	2.31	142.2	24.1	136.6	114.6	27.7	1.90	1.56	87.5	49.60	6,580	117.00	43.10	67.10
1979–0[1]	61,162	2.39	145.9	29.9				1.96		88.2	59.20				
1980–1															

[1] Preliminary. [2] Roughage-consuming animal units fed annually. [3] Price of hay sold baled, for year beginning July.
Source: Economic Research Service, U.S.D.A.

U.S. Hay (All) Stocks on Farms In Thousands of Tons

Year	Jan. 1	May 1	Year	Jan. 1	May 1
1967	84,881	21,938	1974	93,159	25,353
1968	88,460	24,929	1975	84,687	18,505
1969	89,687	23,664	1976	86,209	25,501
1970	89,365	24,056	1977	77,432	19,505
1971	87,651	22,200	1978	91,480	24,077
1972	89,445	25,472	1979[1]	98,090	29,912
1973	88,790	24,311	1980[1]	106,775	

[1] Preliminary. *Source: Economic Research Service, U.S.D.A.*

HAY

Production of Hay in the United States In Millions of Short Tons

Year	Alfalfa & Mixtures	Clover & Timothy	Lespedeza	Soy-Bean	Pea-nut	Cow-Pea	Grains Cut Green	Other	All Tame	Wild	All Hay	Corn for Silage[1]	Sorghum[1] Silage
1967	74.3	22.1	2.4	[3]	.2	[3]	3.3	13.8	117.3	9.0	125.1	94.8	10.2
1968	73.6	22.8	1.9	[3]	.2	[3]	3.5	14.2	117.6	7.9	124.2	93.7	9.7
1969	75.9	22.9	1.7	[3]	.2	[3]	3.9	13.1	119.3	8.2	126.0	99.2	9.4
1970	75.4	23.4	1.6	[3]	.2	[3]	3.9	14.2	119.5	8.2	127.0	94.1	7.2
1971	77.2	52.0									129.1	109.3	11.0
1972	78.0	50.6									128.6	109.3	9.9
1973	79.1	55.6									134.2	114.3	9.5
1974	74.7	52.5									126.4	115.7	7.3
1975	78.0	54.2									132.2	115.7	7.4
1976	69.8	50.2									120.0	[illegible]	7.2
1977	80.4	50.9									131.3	116.7	9.2
1978	86.6	55.6									142.2	116.5	7.8
1979[2]	87.6	58.3									145.9	113.7	9.0
1980													

[1] Not included in all tame hay. [2] Preliminary. [3] Discontinued. *Source: Crop Reporting Board, U.S.D.A.*

Production of All Hay in the United States by Important States In Millions of Tons

Year	Calif.	Idaho	Ill.	Iowa	Mich.	Minn.	Mo.	No. Dak.	Nebr.	N.Y.	Ohio	Pa.	So. Dak.	Wis.	Texas
1967	7.2	3.7	3.8	7.3	3.2	7.4	5.6	4.1	6.6	5.6	3.0	4.0	4.9	10.3	
1968	7.5	3.4	3.6	7.1	3.3	7.5	5.7	4.1	6.1	5.1	3.4	4.1	5.1	10.8	
1969	7.1	3.7	3.3	7.2	3.2	7.9	5.7	4.3	6.9	5.0	2.9	4.1	5.5	11.3	3.5
1970	7.4	3.9	3.3	6.8	3.3	8.1	5.7	4.8	6.1	5.5	3.0	4.5	5.9	10.6	4.3
1971	7.9	3.8	3.2	6.7	2.7	8.2	5.4	4.9	6.9	5.4	3.2	4.4	5.7	11.1	4.1
1972	8.2	3.7	3.4	7.0	3.1	8.2	5.5	5.1	7.1	4.5	3.1	3.8	7.3	10.2	3.9
1973	7.9	4.1	3.3	7.3	3.4	8.0	5.9	4.2	7.5	5.2	3.3	4.3	5.6	10.6	5.8
1974	7.7	4.4	3.2	6.5	3.0	7.5	5.4	4.7	6.3	5.3	3.0	4.2	5.2	10.6	5.1
1975	7.6	4.4	3.5	6.9	3.3	8.0	5.6	5.3	6.5	5.1	3.6	4.3	5.7	10.6	5.2
1976	7.6	4.2	3.5	6.7	3.1	5.8	4.9	4.0	6.0	5.4	3.6	4.1	2.8	8.1	5.4
1977	7.7	4.5	3.7	7.4	2.9	8.1	5.7	3.2	7.5	4.6	3.6	3.9	6.3	12.0	4.7
1978	7.0	4.7	3.6	8.3	3.7	8.9	6.0	6.5	7.5	5.3	3.9	4.3	8.6	11.6	4.4
1979[1]	7.3	4.1	3.8	8.3	3.8	9.0	6.1	5.8	7.6	5.5	3.6	4.3	7.9	12.6	6.1
1980															

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Average Price Received by Farmers for All Hay (Baled) on the 15th of Month In Dollars Per Ton

Crop Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average[1]
1967–8	22.40	21.90	22.10	22.60	22.80	23.40	24.00	23.80	23.60	22.90	22.40	21.90	24.50
1968–9	21.40	21.30	21.70	21.80	22.30	23.00	23.50	24.40	24.80	24.50	23.50	22.50	23.60
1969–0	22.20	22.10	22.60	23.20	23.50	24.00	25.00	25.20	24.90	24.10	23.50	22.40	24.70
1970–1	22.10	22.50	23.30	23.90	24.40	25.00	25.40	25.80	26.00	26.10	25.60	24.60	26.00
1971–2	24.10	24.30	24.50	24.90	25.30	26.10	29.20	29.70	29.00	28.00	31.10	30.90	28.00
1972–3	28.50	29.30	29.80	30.30	31.00	33.00	34.60	35.40	35.40	33.90	37.50	35.20	31.30
1973–4	36.30	39.00	43.10	46.20	46.80	46.00	47.10	47.10	45.40	44.40	54.00	47.70	41.60
1974–5	48.20	51.10	51.90	51.50	50.30	50.70	50.10	49.30	49.70	52.40	56.30	53.60	50.90
1975–6	51.20	51.00	50.80	50.30	50.20	51.60	52.70	54.30	54.10	54.10	64.80	59.60	52.20
1976–7	59.00	58.70	60.80	60.10	59.00	59.00	60.90	62.70	63.90	63.20	68.10	61.30	60.30
1977–8	56.80	52.50	50.00	48.20	48.40	49.50	50.50	51.80	51.40	51.40	55.30	51.20	54.00
1978–9	49.20	49.00	47.80	47.10	46.40	47.30	48.90	50.70	50.20	49.90	65.10	58.00	50.30
1979–0	56.30	57.60	58.80	60.50	59.90	60.50	60.20	60.80	58.70	63.40			
1980–1													

[1] Weighted average by sales. *Source: Crop Reporting Board, U.S.D.A.*

Hides and Leather

In the 49 countries accounting for most of the world's bovine hide output, production reached a cyclical high of 4,624,000 tonnes in 1977, declined to 4,568,000 in 1978, and was estimated by the USDA to have dropped to 4,475,000 tonnes in 1979. Production was expected to continue trending downward through 1980 and possibly 1981.

In the long run, potential world cattle hide supply depends on the size and sex composition of the total herd. Over the short term, the rate of slaughter—which is affected by such factors as price, demand, weather, and disease—determines the supply, according to the USDA. Peaks in slaughter tend to lag inventory peaks by about 2 years. The slaughter rates (total slaughter for a 12-month period as a percentage of beginning inventory) in the world's four major production areas—North America, Latin America, Oceania, and Western Europe—were estimated to be around 28 percent in 1977 and 1978. However, beginning in 1979 and continuing through 1981 and possibly 1982, the slaughter rate was expected to decline—probably rising again to rates of 26 to 28 percent in 1984 and 1985.

U.S. production of cattlehides (derived from total commercial slaughter) declined about 15 percent from 39.5 million head in 1978 to an estimated 33.6 million in 1979. The supply of cattlehides available for domestic tanning production tightened further in 1979, because hide exports remained near the high level of 1978 (23.5 million), or an estimated 70 percent of total production.

The expanding percentage of exported U.S. cattlehides continued as a problem of major concern to U.S. tanners and leather products manufacturers through 1979 and into 1980. Some developing countries seek to restrict exports of raw hides and skins and to limit leather imports through licensing, taxes, quotas, and embargoes. At the same time, rebates, grants and subsidies are used as incentives to encourage finished leather-product exports. Very little was accomplished in liberalizing these barriers during GATT trade negotiations in 1979. However, the U.S. and Argentina reached an agreement that eliminated, as of October 1, 1979, the Argentine export embargo on cattlehides, which had been in effect since 1972. Argentina replaced the embargo with a 20 percent export tax which was to be phased out gradually by October, 1981. In exchange, the U.S. agreed to end, by the same date, its 5 percent import duty on cattlehide leather from Argentina.

The quantity of leather shipped by U.S. tanners decreased an estimated 13.9 percent in 1979, from 20.1 million equivalent cattlehide units in 1978 to 17.3 million in 1979. Cattlehide leathers accounted for 14.6 million units, or 84 percent of the total. Most tanners have diversified their product lines in order to penetrate several different domestic leather products' markets. However, much of the growth in most of these markets continued to be filled by lower-priced imported leather and leather products.

After a brief period of higher production in early 1979, monthly production levels of nonrubber footwear started declining and were expected to drop to about 384 million pairs for 1979. This lower level was 8.3 percent below the 418.9 million pairs produced in 1978 and continued the virtually steady yearly drop in production levels for the past decade. Even though nonrubber footwear imports were limited by Orderly Marketing Agreements with Taiwan and Korea, imports from several of the un-

World Production of Bovine Hides and Skins In Thousands of Units of Metric Tons

Year	Argentina	Australia	Brazil	Canada	Colombia	France	Germany East	Germany West	Mexico	Italy	Poland	South Africa	Turkey	Un. Kingdom	United States	U.S.S.R.
1970–74	246.7	129.3	331.4	89.7	64.9	143.6	44.0	145.8	80.0	102.5	56.5	67.7	46.0	94.7	1,012	675.2
1975	277.4	185.5	338.0	111.7	67.2	163.3	47.3	155.5	107.7	91.4	76.1	66.9	57.0	127.4	1,199	695.3
1976	320.1	208.0	339.0	117.6	76.5	174.0	48.2	167.1	108.0	93.6	86.1	55.3	50.1	111.6	1,223	725.6
1977	339.2	219.5	375.0	115.3	73.0	162.2	49.1	161.1	114.6	95.5	80.4	58.8	52.1	102.9	1,209	735.0
1978[1]	370.8	202.1	336.0	106.1	78.2	162.8	49.7	164.5	124.0	91.9	75.9	65.1	53.4	99.0	1,134	741.0
1979[1]	355.2	174.0	330.0	94.6	81.3	163.0	50.2	170.4	122.0	91.9	77.2	69.2	53.4	95.0	964.1	760.0

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

U.S. Imports and Exports of All Cattle Hides In Thousands of Hides

Year	Imports Total	Imports From Canada	U.S. Exports—By Country of Destination Total	Canada	France	W. Germany	Japan	Mexico	Netherlands	Poland	Spain	Romania	South Korea	Czech.	Italy
1970	385	323	15,222	761	287	714	6,206	2,046	332	152	260	449	271	499	335
1971	275	245	15,962	883	545	576	6,010	2,195	305	473	842	571	357	694	62
1972	292	283	17,578	893	753	585	7,246	1,776	299	545	758	1,201	411	852	178
1973	694	661	16,866	764	548	535	6,840	2,005	129	719	503	1,006	821	807	426
1974	520	484	18,428	790	327	396	6,642	2,500	153	639	554	1,777	1,252	638	250
1975	958	954	21,269	805	504	315	7,108	2,362	219	787	948	1,226	2,203	877	565
1976	962	958	25,270	1,057	816	518	9,356	1,708	326	389	957	1,651	3,270	678	1,561
1977	932	926	24,489	859	769	435	8,425	1,967	417	433	940	1,472	3,611	680	1,048
1978	704	694	24,791	1,093	555	379	8,797	1,938	211	349	1,019	1,942	3,720	586	1,284
1979[1]	673	643	23,731	1,248	691	454	7,396	2,428	324	513	892	1,317	2,526	682	2,248

[1] Preliminary. *Source: Tanners' Council of America*

controlled countries increased to such an extent that the import level in 1979 reached a record high, estimated at more than 400 million pairs.

Production of men's footwear, which in 1979 accounted for about 24 percent of total shipments of the domestic nonrubber footwear industry, was expected to decline 3 percent in 1980 to 91 million pairs from an estimated 94 million in 1979.

Estimated production of women's footwear in 1979 was 150 million pairs. About 56 percent of women's shoes are made of leather, and the women's footwear industry accounts for about 38 percent of both quantity and value of total domestic shipments of nonrubber shoes and slippers.

Salient Statistics of Hides & Leather in the United States

	New Supply of Cattle Hides					Wholesale Prices—F.O.B. Pts.		Leather Production[4]	Leather Exports		Wholesale Leather Prices		Footwear	
	Domestic Slaughter													
Year	Federally inspected	Uninspected[8]	Total Production	Net Exports	Total New Supply	Calf[2] Skins	Hides[3]: Steers, Heavy	Thous Equiv. Hides	Glove & Garment	Upper & Lining	Sole[5]	Upper[6]	Production[7]	Export
	Thousands of Equivalent Hides					¢ per lb.			Thous. Sq. Ft.		1967 = 100		Mil. Pairs	
1971	31,419	4,861	36,280	15,694	20,586	29.4	14.5	20,520	82,944		114.4	81.8	536	2.1
1972	32,267	4,213	36,480	17,705	18,775	56.3	29.6	20,084	117,556		157.5	106.7	527	2.3
1973	30,521	4,179	34,700	16,177	22,728	62.2	34.3	17,768	120,104		184.6	119.5	490	3.6
1974	33,319	4,381	37,700	17,924	19,776	64.4	23.1	16,829	148,565		158.8	N.A.	453	4.0
1975	36,904	4,896	41,800	20,329	21,471	35.0	23.4	N.A.	184,104		151.1	N.A.	413	4.3
1976	38,992	4,590	43,582	24,318	19,264	75.5	33.8	N.A.	203,707		197.9	N.A.	423	6.0
1977	38,717	3,139	41,856	23,569	18,287	91.4	37.0	N.A.	206,276		206.1	N.A.	414	5.4
1978	36,948	2,604	39,552	24,101	15,451	134.6	47.2	N.A.	208,799		235.2	N.A.	419	6.2
1979[1]	31,504	2,173	33,678	23,063	10,615	168.7	73.1	N.A.	187,662		329.6	N.A.	390	7.6

[1] Preliminary. [2] Packer, heavy, 9½ to 15 pounds. [3] Native, over 53 pounds. [4] Cattle hides & side kip. [5] Bends, light, f.o.b. tannery. [6] Chrome calf, B&C grades, f.o.b. tannery. [7] Other than rubber. [8] Includes farm slaughter; diseased & condemned animals & hides taken off fallen animals. *Sources: Tanners' Council of America; Bureau of Labor Statistics; Dept. of Commerce*

U.S. Imports of Sheep and Lamb Skins In Thousands of Pieces

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1973	910	1,437	1,883	1,547	1,219	804	1,598	1,157	540	684	562	494	12,835
1974	765	791	1,468	1,308	1,839	2,375	1,232	1,728	1,449	1,077	1,167	533	15,732
1975	1,161	1,515	1,615	1,603	1,162	1,024	1,668	1,096	1,372	1,311	1,145	849	15,520
1976	929	959	2,793	2,216	1,289	2,366	1,494	1,336	1,414	817	523	467	16,603
1977[1]	815	1,166	1,942	1,355	2,260	1,724	1,601	1,385	1,295	482	155	1,288	15,468
1978[1]	841	1,850	2,080	2,541	2,245	1,577	1,849	1,323	1,093	920	935	739	17,807
1979[1]	1,321	1,581	1,835	1,449	2,967	1,425	1,080	1,331	804	514	598	624	15,529
1980[1]	779	641											

[1] Preliminary. *Source: U.S. Department of Commerce*

U.S. Exports of Upper & Lining Leather In Thousands of Square Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1973	8,746	7,872	9,254	11,311	12,618	10,873	8,154	10,353	9,919	10,184	6,459	9,563	120,104
1974	9,984	10,163	10,407	11,917	16,191	14,674	12,800	11,699	14,108	12,831	11,032	12,759	148,565
1975	14,748	12,427	13,574	14,624	16,735	18,473	13,341	16,979	14,714	17,131	16,737	12,909	184,104
1976	14,517	17,367	18,157	19,449	21,149	18,795	14,028	12,074	18,343	14,361	15,108	18,388	203,707
1977[1]	18,630	19,272	23,315	18,338	16,714	16,205	18,612	12,276	16,838	12,807	14,980	18,240	206,227
1978[1]	17,364	15,309	16,408	16,720	18,899	21,427	14,160	19,726	16,224	17,438	17,947	17,176	208,799
1979[1]	13,854	16,014	18,833	16,480	15,664	18,526	13,153	15,265	14,456	13,895	16,089	15,433	187,665
1980[1]	15,769	16,873											

[1] Preliminary. *Source: Tanners' Council of America*

U.S. Exports of Calf and Kip Skins In Thousands of Skins

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1974	144	169	337	184	231	189	114	101	126	136	140	292	2,163
1975	280	161	236	174	230	115	166	159	193	284	197	209	2,403
1976	195	151	247	262	212	122	161	159	133	217	145	158	2,162
1977[1]	194	182	144	250	174	171	246	187	249	179	196	336	2,508
1978[1]	211	160	288	265	194	199	222	189	339	181	177	241	2,665
1979[1]	207	264	233	267	126	204	216	196	169	140	143	157	2,321
1980[1]	159	205											

[1] Preliminary. *Source: U.S. Department of Commerce*

Exports of Cattle Hides from the United States In Thousands of Hides

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1971	1,207	1,251	1,611	1,239	1,304	1,235	694	1,166	1,338	1,565	1,696	1,656	15,962
1972	1,272	1,153	1,686	1,210	1,437	1,317	2,152	1,324	1,290	1,893	1,733	1,524	17,589
1973	1,461	1,837	1,802	1,340	1,411	1,266	1,155	1,100	1,229	1,463	1,412	1,391	16,867
1974	1,423	1,500	1,462	1,567	1,554	1,123	1,615	1,529	1,423	1,619	1,708	1,905	18,428
1975	1,663	1,810	1,989	2,045	1,834	1,719	1,551	1,548	1,714	1,678	1,965	1,753	21,269
1976	2,172	1,658	2,407	2,386	2,075	2,030	2,002	2,073	2,016	2,040	2,042	2,282	25,270
1977	2,276	1,998	2,289	2,167	2,016	2,023	2,189	1,937	2,157	1,631	1,572	2,235	24,488
1978	1,893	2,021	2,270	2,375	2,122	2,078	1,725	2,176	1,779	1,922	1,754	2,676	24,792
1979	1,635	2,056	2,405	2,130	2,358	2,034	1,627	2,018	1,993	1,830	2,041	1,603	23,731
1980	1,308	1,705											

Source: U.S. Department of Commerce

U.S. Production of Footwear (Shoes, Sandals, Slippers, Athletic, Etc.) In Millions of Pairs

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	47.6	47.5	50.2	48.6	46.3	47.9	42.9	47.3	47.7	49.0	40.9	43.4	562.3
1971	44.8	44.9	50.3	46.8	44.1	46.7	37.6	46.3	45.7	45.1	40.7	42.9	535.8
1972	44.5	44.3	48.7	44.1	45.2	46.2	36.1	46.2	44.2	46.4	41.1	38.5	526.5
1973	42.9	41.9	46.8	41.9	41.7	41.7	32.1	43.7	39.2	45.2	38.5	34.2	490.0
1974	40.8	41.1	42.9	39.9	43.2	39.9	32.9	37.3	34.8	36.9	33.2	30.2	453.0
1975[1]	32.7	31.2	31.6	32.8	32.7	34.1	32.2	36.2	37.7	42.4	34.6	35.0	413.1
1976[1]	37.0	36.1	42.2	39.4	38.7	37.3	29.5	34.8	35.1	33.2	30.0	29.2	422.5
1977[1]	30.9	31.3	34.6	31.3	32.8	33.2	24.9	34.6	32.9	33.7	33.2	31.2	413.7
1978[1]	32.4	32.6	37.3	36.2	36.8	34.2	24.5	34.4	31.6	33.5	33.8	30.2	418.9
1979[1]	35.7	33.4	37.0	31.9	35.4	30.5	24.4	32.4	29.6	33.5	30.0	27.5	381.2
1980[1]	34.1												

[1] Preliminary. *Source: U.S. Department of Commerce*

Avg. Prices of Calfskins, Packer, Heavy, 9½–15 Lb., F.O.B. Shipping Point In Cents Per Pound

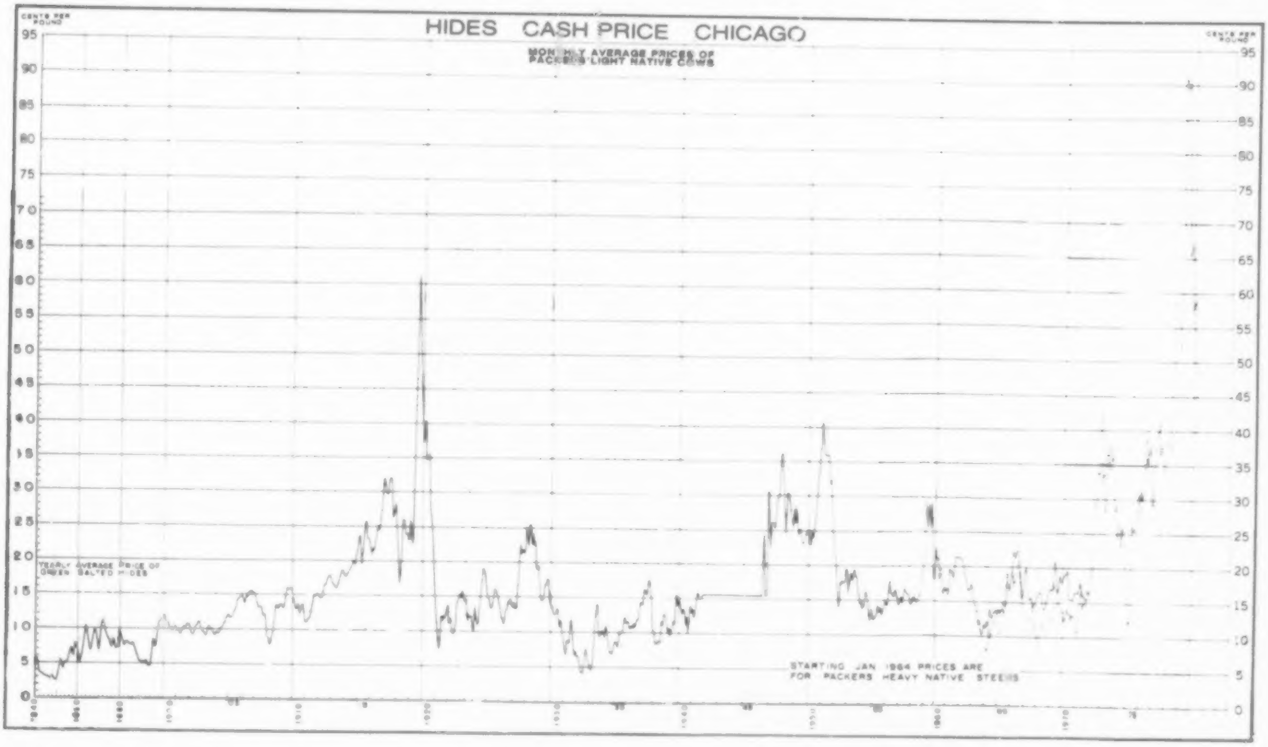
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	65.0	55.0	65.0	65.0	65.0	60.0	57.5	57.5	50.0	45.0	45.0	43.0	56.1
1970	40.3	30.0	30.0	37.5	37.5	27.5	32.0	35.0	32.0	32.0	32.0	31.5	33.1
1971	30.0	30.0	27.5	30.0	30.0	30.0	30.0	30.0	28.0	28.0	28.0	32.0	29.4
1972	33.0	45.0	45.0	57.5	57.5	56.0	56.0	65.0	65.0	65.0	65.0	66.0	56.3
1973	66.0	66.0	66.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	62.2
1974	61.0	—	61.0	61.0	85.0	85.0	85.0	75.0	60.0	55.0	45.0	35.0	64.4
1975	30.0	28.5	28.5	28.5	50.0	—	35.0	35.0	35.0	35.0	35.0	45.0	35.0
1976	55.0	55.0	—	80.0	80.0	80.0	80.0	80.0	90.0	90.0	70.0	70.0	75.4
1977	80.0	90.0	90.0	90.0	115.0	115.0	90.0	90.0	90.0	—	75.0	80.0	91.4
1978	90.0	90.0	100.0	110.0	110.0	110.0	120.0	185.0	185.0	185.0	165.0	165.0	134.6
1979	180.0	200.0	220.0	220.0	220.0	177.0	155.0	155.0	136.0	136.0	115.0	110.0	168.7
1980	150.0	134.4	115.0										

Source: U.S. Bureau of Labor Statistics

Average Factory Price of Footwear in the United States In Dollars Per Pair

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	4.79	4.86	4.89	5.07	4.92	4.94	4.97	5.05	5.10	4.99	4.98	5.27	4.98
1970	5.11	5.18	5.36	5.20	4.97	5.02	5.10	5.23	5.15	5.09	5.11	5.54	5.17
1971	5.39	5.37	5.41	5.40	5.18	5.21	5.38	5.21	5.16	5.17	5.13	5.45	5.29
1972	5.45	5.48	5.54	5.67	5.48	5.52	5.75	5.59	5.55	5.41	5.39	6.00	5.56
1973	6.32	6.15	6.19	6.28	6.09	6.11	6.30	6.24	6.29	6.20	6.16	6.63	6.24
1974	6.84	6.67	6.81	6.76	6.91	6.86	6.99	6.90	7.20	7.25	7.31	7.63	6.99
1975	7.48	7.64	7.50	7.43	7.63	7.63	7.49	7.43	7.45	7.46	7.63	7.29	7.50
1976	8.00	7.87	8.07	8.16	8.23	8.23	8.32	8.34	8.63	8.21	8.75	8.73	8.28
1977	8.61	8.40	8.63	8.81	8.53	8.39	8.44	8.36	8.51	8.28	8.62	9.00	8.54
1978[1]	8.50	8.39	8.76	9.35	9.51	9.37	9.41	8.66	9.40	9.37	9.61	10.31	9.20
1979[1]	9.73	9.84	9.68	10.23	10.00	10.48	11.74	10.31	10.30	10.46	11.15	11.49	10.45

[1] Preliminary. *Source: Tanners' Council of America*



Average Price of Hides (Packer Heavy Native Steers)[1] —F.O.B. Shipping Point In Cents Per Lb.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	13.4	12.9	12.9	12.5	11.9	13.0	12.5	11.0	12.5	10.5	10.8	9.8	12.0
1968	9.3	9.3	12.0	11.3	12.3	11.3	10.8	11.0	11.4	11.8	12.1	12.3	11.2
1969	12.8	12.2	13.5	17.8	17.0	14.8	14.8	14.6	16.3	13.8	13.6	13.9	14.6
1970	12.3	12.8	12.8	14.1	13.4	13.4	12.3	13.5	13.0	13.1	13.1	11.0	12.9
1971	10.4	11.5	11.5	15.8	16.8	14.1	14.8	14.8	15.5	15.3	16.8	16.3	14.5
1972	17.8	19.0	23.3	25.5	28.0	29.3	29.3	34.0	33.5	40.5	43.0	32.0	29.6
1973	34.0	33.5	28.3	38.3	36.3	33.8	36.3	38.3	35.5	36.3	32.8	28.2	34.3
1974	29.3	—	24.1	26.3	26.3	23.3	25.8	25.3	24.5	17.3	17.5	14.3	23.1
1975	11.8	12.5	16.3	27.5	25.3	25.8	25.3	25.3	25.8	28.0	30.8	26.3	23.4
1976	31.5	29.8	30.0	34.9	39.0	34.8	36.3	37.3	38.3	31.8	29.0	32.3	33.8
1977	35.8	36.3	37.3	40.1	41.3	36.3	38.1	36.8	34.8	33.8	34.8	38.0	37.0
1978	38.8	37.8	37.3	41.3	41.8	45.8	47.8	53.0	59.0	57.3	54.8	51.8	47.2
1979	60.3	65.3	91.3	89.3	90.5	82.9	77.7	70.8	65.4	67.7	59.3	57.1	73.1
1980	59.1	48.7	39.4										

[1] Over 53 pounds. *Source: Bureau of Labor Statistics*

U.S. Exports of Hides and Skins In Millions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Average
1971	11.6	12.0	14.9	11.5	13.1	12.9	7.1	11.6	12.5	15.2	16.2	17.2	155.8
1972	13.5	12.9	19.2	15.9	19.1	19.3	32.6	24.0	24.4	36.1	40.8	37.3	292.0
1973	35.9	45.5	44.2	30.9	33.5	25.4	23.7	24.1	25.6	31.0	29.4	27.9	377.0
1974	29.0	31.2	31.8	31.6	31.9	22.5	30.0	26.7	24.6	27.9	25.5	26.4	339.1
1975	22.7	22.8	24.5	25.1	24.6	23.4	22.5	23.0	25.8	24.9	29.0	28.1	296.3
1976	34.8	28.3	42.4	45.3	51.5	43.1	44.0	45.2	44.9	48.1	46.1	48.5	522.3
1977	50.5	47.2	55.8	53.3	48.0	49.1	51.8	46.5	50.4	39.3	38.2	52.9	582.9
1978	45.5	47.6	58.5	61.3	55.4	55.8	47.5	58.8	54.4	60.1	58.5	91.2	694.6
1979	61.6	77.4	98.3	91.7	101.4	88.3	78.7	91.8	80.0	72.0	78.7	71.8	991.7
1980	60.8	75.1											

Source: U.S. Department of Commerce

Hogs

U.S. commercial hog slaughter in 1979 increased to 89.1 million head, up 15 percent from a year earlier and the largest slaughter since 1971. The largest year-to-year increases came in the second half of the year, with third-quarter slaughter up 19 percent and the fourth-quarter kill up 24 percent. Hog slaughter was at record levels in January and February 1980 and for the first quarter of 1980 was up about 20 percent from the same quarter in 1979. Hog slaughter was expected to continue near record levels for most of 1980.

Gross returns to farrow-to-finish producers (who supply 75 to 80 percent of the total supply of hogs for slaughter) had been below production costs since the summer of 1979, spurring a sharp increase in sow kill in the last half of 1979 and early 1980. Return to feeder pig finishing operators and to producers of feeder pigs also suffered a sharp decline.

Despite the heavy slaughter of sows, the USDA March 1 Hogs and Pigs report for 14 selected states showed the inventory of hogs to be marketed over the next 6 months to be up 9 percent from holdings a year earlier. The mild winter weather contributed to an increase in the number of pigs saved per litter, and transmissible gastroenteritis (TGE), a disease causing high death losses of baby pigs, which was prevalent a year ago, was not a major factor this year. While the March 1 breeding inventory was down a modest 3 percent from that a year earlier, December–February farrowing were 3 percent larger than in the same period of the previous year, exceeding earlier intentions by the most in the northwest Corn Belt (Iowa, Minnesota, South Dakota and Wisconsin). These states are in areas where corn prices had been well below the national average. Abundant corn supplies, transportation difficulties, and storage problems kept corn prices low, so producers in these states probably increased farrowings so they could market their corn through hogs rather than sell it at low prices.

The sharp decline in hog prices since the March USDA Hogs and Pigs report and the less-favorable price outlook could cause producers to change the number of sows and gilts due to breed in the spring and expected to farrow during June–August. The number of sows that farrow from June to November 1980 will determine hog slaughter levels during the first half of 1981, and should have a major impact on hog prices in that period. Supplies of competing meats, economic conditions, and other factors will also influence hog prices.

Futures Markets

Live hog futures are traded on the Chicago Mercantile Exchange (30,000 lb. contract) and on the MidAmerica Commodity Exchange (15,000 lb. contract).

World Hog Numbers in Specified Countries In Millions of Head

Year	Brazil	Denmark	France	W. Germany	Hungary	Italy	Japan	Mexico	Philippines	Poland	China[3]	Un. Kingdom	United States	U.S.S.R.	World[4]
1970	31.5	8.4	10.5	19.3	5.7	9.2	6.3	10.3	12.0	14.8	220.0	8.1	57.0	56.1	599.1
1971	32.1	8.7	11.6	21.0	7.3	9.0	6.9	10.0	12.5	13.9	223.0	8.5	67.3	67.5	638.4
1972	33.0	8.7	11.3	20.0	7.6	8.2	7.0	11.0	7.7	16.9	228.0	8.9	62.4	71.4	651.1
1973	34.0	8.7	11.4	20.0	6.9	8.2	7.3	9.4	8.6	19.0	231.4	8.8	59.0	66.6	651.3
1974	35.0	8.2	11.4	20.5	8.0	8.2	8.0	11.7	9.3	21.5	234.9	9.3	60.6	70.0	671.5
1975	43.5	8.1	12.0	20.2	8.3	8.8	7.7	12.1	6.6	21.7		7.9	54.7	72.3	
1976	36.0	7.6	11.5	19.8	7.0	8.9	7.5	12.0	6.5	21.6		7.7	49.3	57.9	364.1
1977	36.8	7.9	11.5	20.6	7.9	9.1	8.1	12.3	5.7	16.8		8.2	54.9	63.1	380.3
1978	37.6	8.2	11.5	21.4	7.9	9.4	8.8	12.5	6.9	20.6		7.7	56.5	70.5	402.7
1979[1]	36.0	9.2	11.3	22.6	8.0	8.9	9.5	12.6	7.2	21.1		8.0	60.1	73.5	416.2
1980[2]	36.8	9.6	11.0	22.3	8.4	8.7	10.7	12.8	7.6	21.9		8.0	67.0	73.7	431.4

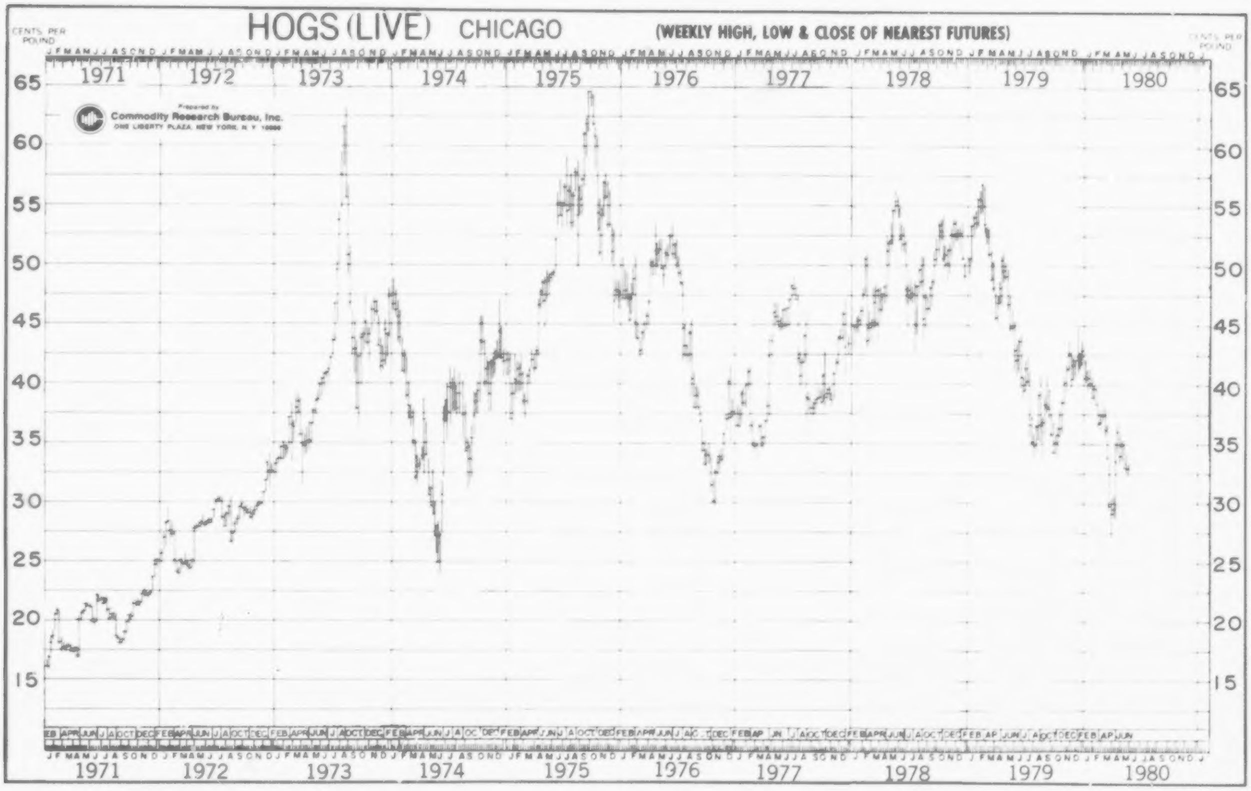
[1] Preliminary. [2] Estimate. [3] Mainland. [4] Total of selected countries from 1966 to date.
Source: Foreign Agricultural Service, U.S.D.A.

Hogs and Pigs on U.S. Farms on December 1 In Thousands of Head

Year	Georgia	Illinois	Indiana	Iowa	Kansas	Kentucky	Minnesota	Missouri	Nebraska	No. Carolina	Ohio	South Dakota	Tennessee	Wisconsin	Total
1968	1,648	7,415	4,499	15,852	1,767	1,431	3,364	4,562	3,226	1,518	2,583	1,860	1,163	1,768	60,829
1969	1,780	6,842	4,499	13,720	1,643	1,400	3,263	4,197	3,000	1,580	2,557	1,674	1,163	1,680	57,046
1970	2,065	7,630	5,129	16,110	2,202	1,680	3,752	5,120	3,691	1,985	2,838	2,009	1,395	1,932	67,285
1971	1,962	6,600	5,020	14,853	2,100	1,394	3,544	4,659	3,322	1,850	2,611	1,868	1,269	1,777	62,412
1972	1,884	6,650	4,850	14,200	2,100	1,255	3,550	4,350	3,300	1,739	2,320	1,739	1,050	1,475	59,017
1973	1,840	7,350	4,875	14,700	2,000	1,280	3,976	4,325	3,455	1,950	2,274	2,175	940	1,540	60,614
1974	1,590	6,500	4,300	13,400	1,750	1,100	3,700	3,900	3,050	1,890	1,950	1,700	880	1,400	54,693
1975	1,300	5,600	3,900	12,600	1,650	1,000	3,000	3,200	2,700	1,900	1,675	1,400	920	1,150	49,267
1976	1,600	6,400	4,000	14,200	1,850	1,080	3,600	3,750	3,100	1,940	1,900	1,500	1,010	1,250	54,934
1977	1,720	6,100	4,100	14,500	2,000	1,140	4,000	3,700	3,150	2,300	1,750	1,580	1,180	1,378	56,539
1978	1,800	6,550	4,400	15,100	2,000	1,150	4,100	4,100	3,650	2,350	1,900	1,620	1,300	1,650	60,100
1979[1]	2,280	6,950	4,900	16,200	2,070	1,400	4,900	4,550	4,150	2,600	2,070	2,000	1,400	1,830	66,950

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

HOGS



Salient Statistics of Pigs and Hogs in the U.S.

Year	Pig Crop — Spring² — Sows Farrowed	Pig Crop — Spring² — Pigs Saved	Pig Crop — Fall³ — Sows Farrowed	Pig Crop — Fall³ — Pigs Saved	Total Pig Crop	Value of Hogs on Farms, Dec. 1 — $ Per Head	Value of Hogs on Farms, Dec. 1 — Total Million $	Hog Marketings Ths. Head	Quantity Produced (Live Wt.) Mil. Lbs.	Value of Production Mil. $	Hogs Slaughtered in Thousand Head — Commercial — Federally Inspected	Hogs Slaughtered — Commercial — Other	Hogs Slaughtered — Commercial — Total	Hogs Slaughtered — Farm	Hogs Slaughtered — Total
	In Thousands of Head														
1970	7,134	52,126	6,882	49,588	101,921	23.50	1,584	86,919	21,823	4,955	78,187	7,630	85,817	1,235	87,052
1971	7,303	51,918	6,297	46,006	98,512	28.50	1,780	98,644	22,832	3,991	86,667	7,771	94,438	1,210	95,648
1972	6,512	47,523	5,967	43,053	90,828	42.00	2,477	89,555	20,919	5,245	78,759	5,948	84,707	1,158	85,865
1973	6,459	46,125	5,864	41,998	88,199	60.40	3,663	82,419	20,154	7,738	72,264	4,531	76,795	1,095	77,890
1974	6,372	44,792	5,466	38,952	83,954	44.90	2,457	85,504	19,976	6,838	77,071	4,691	81,762	1,321	83,083
1975	4,973	35,530	4,952	35,656	71,186	80.40	3,959	73,595	16,799	7,751	64,926	3,761	68,687	1,193	69,880
1976	5,777	42,177	5,850	42,218	84,395	47.00	2,583	75,744	18,111	7,844	70,454	3,330	73,784	1,175	74,959
1977¹	6,050	42,960	6,009	43,202	86,162	63.20	3,575	80,917	19,124	7,536	74,019	3,285	77,303	1,139	78,442
1978⁴	6,030	42,452	6,395	45,990	88,442	83.30	4,986	81,266	19,558	9,111	74,139	3,176	77,315	1,102	78,417
1979⁴	7,192	50,669	7,304	52,084	102,753						85,426	3,662	89,088		
1980⁴	7,176	50,950													

[1] Preliminary. [2] December—May. [3] June—November. [4] Breeding intentions. *Source: Statistical Reporting Service, U.S.D.A.*

Average Live Weight of All Hogs Slaughtered Under Federal Inspection In Pounds Per Head

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average¹
1973	238.9	247.0	236.9	238.7	242.5	244.6	245.5	240.3	239.7	242.3	247.0	249.0	241.8
1974	245.8	243.5	244.9	245.5	246.0	248.6	247.2	243.2	243.1	243.1	244.7	245.5	245.1
1975	242	236	236	238	240	244	241	237	238	240	246	246	240.3
1976²	243	236	236	236	239	240	238	236	236	238	243	239	238.3
1977²	234	233	234	236	239	241	239	237	235	239	243	239	237.4
1978²	236	233	234	237	241	244	241	239	239	243	248	247	240.2
1979²	241	237	238	240	243	246	246	240	240	242	245	246	242.0

[1] Average is weighted by Federally inspected slaughter. [2] Preliminary. *Source: Department of Agriculture*

Cold Storage Holdings of Frozen Pork[1] in the U.S. on First of Month In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	234.2	256.2	290.3	331.2	387.5	336.0	293.1	238.7	198.6	202.6	250.5	278.6
1968	285.9	289.1	291.8	305.5	354.9	387.3	326.0	245.0	196.4	197.1	222.4	236.9
1969	256.3	249.3	264.3	270.2	324.0	298.7	245.7	196.2	168.3	173.9	201.5	220.6
1970	210.9	210.4	237.4	268.5	329.0	350.5	304.3	254.7	217.5	210.0	246.2	303.5
1971	336.1	351.1	338.8	387.0	463.6	494.8	477.3	402.3	330.0	306.9	310.4	325.3
1972	330.0	301.1	289.5	327.7	395.8	381.5	319.6	255.7	203.5	192.1	208.9	242.3
1973	214.2	203.1	201.6	239.6	248.4	258.8	252.2	200.8	179.2	196.0	223.6	277.2
1974	286.1	300.1	309.7	346.6	399.1	412.3	355.4	291.8	257.7	248.6	270.3	302.6
1975	306.7	294.4	299.6	299.3	345.1	323.6	284.3	229.7	185.9	189.5	221.9	269.3
1976	249.1	216.7	206.2	228.9	250.9	255.4	219.0	176.7	157.3	175.6	201.5	219.1
1977	212.1	197.0	203.4	224.7	264.6	269.9	227.9	178.9	145.5	158.5	166.0	208.5
1978	185.9	174.9	172.4	215.8	281.7	280.6	260.2	219.9	178.7	177.8	207.1	245.2
1979[2]	241.8	224.5	220.4	245.6	278.3	292.3	270.1	226.9	181.8	179.0	220.3	258.4
1980[2]	283.3	286.1	270.8	291.0	342.8							
1981												

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[1] Excludes lard. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Hog-Corn Price Ratio[1] at Omaha

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	14.5	14.7	14.0	13.9	16.6	17.0	17.6	17.8	16.7	15.9	15.5	14.9	15.5
1968	15.8	16.8	16.2	15.9	15.4	17.1	18.4	18.1	16.8	15.3	14.9	15.8	16.2
1969	16.3	17.1	17.0	16.2	17.8	19.8	21.1	22.0	22.1	21.7	22.0	23.0	19.5
1970	22.8	23.5	21.7	19.6	18.8	18.8	19.5	16.2	14.5	13.2	11.5	10.8	16.9
1971	11.0	13.2	11.6	11.3	11.8	12.2	13.9	15.1	16.3	17.2	16.7	16.6	13.6
1972	19.7	20.6	19.0	18.2	19.7	21.5	22.8	23.5	22.6	21.8	20.6	20.5	20.6
1973	21.5	23.3	25.4	23.4	19.5	16.9	19.9	20.8	18.4	17.8	16.9	15.7	19.3
1974	14.8	13.4	12.5	12.1	10.2	10.0	11.2	10.5	10.3	10.6	11.0	11.8	11.3
1975	12.6	14.1	14.3	14.1	16.4	17.9	19.4	18.6	20.7	21.2	19.4	18.5	16.9
1976	18.6	18.6	17.7	18.3	17.7	17.6	16.8	16.2	15.1	13.7	14.4	16.4	16.5
1977	16.4	16.8	15.9	16.0	18.8	20.7	23.8	26.4	24.6	22.6	19.2	21.4	20.2
1978	22.7	24.0	22.2	20.4	20.9	20.6	21.8	24.5	25.7	25.5	23.5	23.4	22.9
1979	24.5	25.4	22.6	19.9	18.1	15.2	14.1	15.4	16.2	14.6	15.3	16.0	18.1
1980	16.5	16.2	15.2	12.3									
1981													

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[1] Ratio computed by dividing average price packer and shipper purchases of barrows and gilts by average price No. 2 yellow corn both at OMAHA. This ratio represents the number of bushels of corn required to buy 100 pounds of live hogs.
Source: Economic Research Service, U.S.D.A.

Federally Inspected Hog Slaughter in the United States In Thousands of Head

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	6,292	5,661	6,728	5,867	5,310	5,178	4,743	5,808	6,114	6,684	6,431	6,100	70,915
1968	6,496	5,697	6,238	6,483	6,407	5,125	5,454	5,942	6,348	6,410	6,571	6,619	74,789
1969	6,814	6,245	6,809	6,852	6,045	5,591	5,739	5,708	6,611	7,100	6,825	6,344	75,682
1970	6,170	5,507	6,415	6,678	5,877	5,685	5,774	6,045	7,034	7,662	7,350	7,990	78,187
1971	7,489	6,379	8,266	7,794	6,932	6,983	6,220	6,922	7,379	7,190	7,566	7,547	86,667
1972	6,400	6,280	7,800	6,733	6,793	6,313	5,276	6,512	6,420	7,048	6,988	6,197	78,759
1973	6,641	5,713	6,652	5,992	6,638	5,711	4,996	5,569	5,348	6,613	6,534	5,859	72,264
1974	6,804	5,584	6,568	6,867	7,077	5,894	5,722	6,363	6,523	7,023	6,402	6,243	77,071
1975	6,349	5,540	5,751	6,361	5,375	5,077	4,657	4,627	5,217	5,379	5,085	5,508	64,926
1976	5,400	4,873	6,325	5,827	5,086	5,146	4,905	5,968	6,361	6,929	7,110	6,525	70,454
1977	5,840	5,825	7,236	6,400	5,877	5,695	4,908	6,149	6,514	6,507	6,885	6,186	74,019
1978[1]	5,969	5,840	6,794	6,213	6,298	5,778	5,402	6,227	6,203	6,576	6,737	6,101	74,139
1979[1]	6,393	5,693	7,113	6,962	7,284	6,678	6,734	7,662	6,840	8,736	8,097	7,234	85,426
1980[1]	8,036	7,276	7,854										
1981													

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[1] Preliminary. *Source: Statistical Reporting Service, U.S.D.A.*

HOGS

Average Wholesale Price of Hogs, Average (All Weights) at Sioux City In Dollars Per 100 Pounds

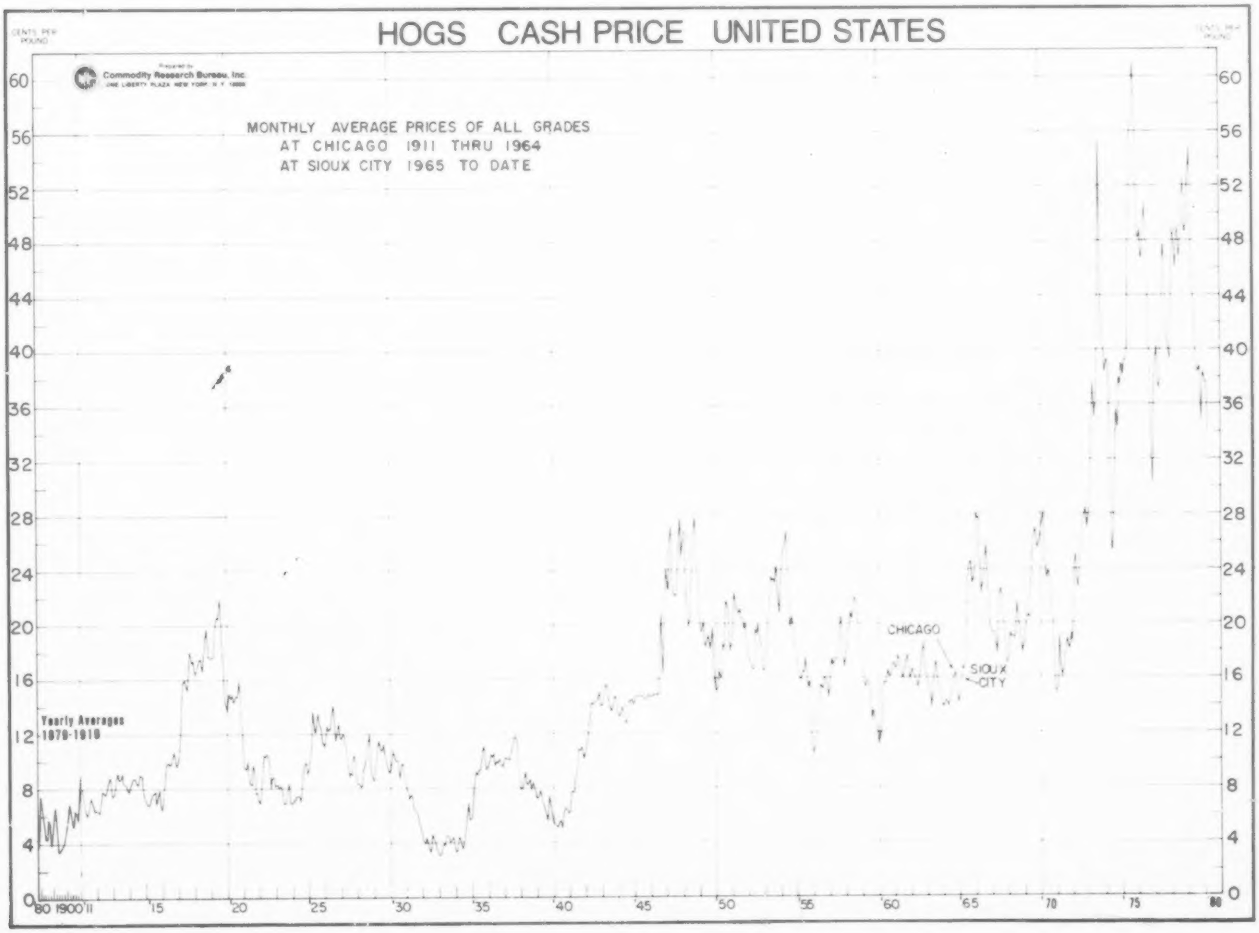
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1972	24.02	25.10	23.19	22.62	24.76	25.71	27.24	27.87	28.41	27.37	26.91	29.33	26.58
1973	32.44	36.23	38.17	35.60	36.36	38.44	46.96	56.67	43.62	42.02	40.81	39.55	40.10
1974	40.22	38.98	34.71	30.36	25.89	27.29	36.15	37.49	35.69	38.96	38.14	39.81	34.75
1975	38.96	39.69	39.59	40.74	46.42	51.31	57.25	58.12	61.19	58.76	49.78	48.36	48.30
1976	48.23	48.92	46.76	48.06	48.96	50.91	48.31	44.03	39.39	32.69	31.96	38.28	43.19
1977	39.65	40.40	37.61	37.20	41.94	43.89	45.76	44.34	41.39	40.97	39.44	44.13	41.12
1978	46.08	49.26	47.77	46.22	49.25	48.19	46.94	48.83	50.34	52.58	48.68	49.73	48.67
1979	52.11	54.93	49.66	45.29	43.77	39.98	38.58	38.41	38.80	34.74	36.13	38.30	42.56
1980	37.58	37.61	33.97										

Source: Department of Agriculture

Average Price Received by Farmers for Hogs in the U.S. In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
1973	29.60	31.00	34.30	38.20	35.10	35.30	37.30	41.30	56.30	43.80	40.90	40.50	38.40
1974	38.20	40.10	39.30	35.00	30.60	26.30	24.20	34.20	36.00	33.70	37.10	36.80	34.20
1975	38.20	38.50	38.60	39.30	45.10	47.40	53.90	56.10	58.60	58.30	49.10	47.60	46.10
1976	47.70	48.00	45.60	47.00	47.60	49.20	47.60	42.60	39.70	32.90	31.20	36.30	43.30
1977	38.10	39.40	37.20	36.00	40.70	42.00	44.80	42.80	40.30	39.90	37.80	41.80	39.40
1978	43.90	47.40	46.40	45.00	47.90	47.60	45.40	47.40	48.00	50.80	47.30	48.00	46.60
1979[2]	50.60	52.80	49.40	44.10	43.60	39.70	37.90	35.50	37.50	34.00	34.40	37.50	41.50
1980[2]	36.30	36.70	33.40	27.60									

[1] Weighted average by quantities sold. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*



Honey

The USDA has estimated the 1979 world honey harvest at a record 714,300 tonnes, about equal to estimated world consumption. Gains from the revised 1978 production estimate of 705,000 tonnes were not expected to increase world honey trade, however, because of production shortfalls in Argentina.

Although honey production was down in Eastern Europe, the Soviet crop recovered from a disappointing 1978 output. France and most of Western Europe, except for West Germany, also increased production.

U.S. Trends

In the United States, 1979 honey production was estimated at 237.3 million pounds, up about 3 percent from the previous year's record of 230.5 million pounds, and was the world's largest crop. The 1979 U.S. crop was produced by 4.14 million colonies, up about 2 percent from 4.08 million a year earlier. Average honey yield per colony improved slightly to 57 pounds. While California rainfall hampered production, the Florida orange blossom flow was sufficient to provide good yields. Above-average nectar supplies in Montana contributed to excellent yields of honey and beeswax. Moreover, relatively dry weather during major honey flows in many areas allowed the bees to gather the abundant nectar supplies.

Despite the record honey crop, prices received by beekeepers averaged a record 59 cents a pound in 1979, breaking the 1978 record by about 4.5 cents because of growing consumer demand. U.S. honey consumption totaled almost 280 million pounds, up from nearly 277 million in 1978, but per capita consumption was unchanged from the previous year's 1.3 pounds.

In mid-December 1979, U.S. beekeepers had 38 million pounds of honey on hand for sale, up from 32 million pounds reported a year earlier. This was 16 percent of U.S. consumption, compared with 14 percent in 1978.

The U.S. exported about 8.5 million pounds of honey in 1979, up from 8 million in 1978, while U.S. imports increased to 57 million pounds from 50 million. Canadian 1979 honey production was a higher-than expected 31,000 tonnes, thanks in part to the importation of 320,000 bee packages, valued at $4.8 million, from the United States in 1978.

Government Price Support Programs

The large supplies available in 1979 encouraged beekeepers to make greater use of the Commodity Credit Corporation's loan program. As of December 31, 1979, loans had been taken out on 24.4 million pounds of honey, compared with 19 million pounds a year earlier. All loans were expected to be redeemed because the market price was substantially above the loan rate.

The national average support price for 1980-crop honey is 50.3 cents per pound, 6.4 cents more than the 1979 price. Loans on 1980-crop honey will be available for extracted honey in 60-pound and larger containers and in bulk. The support level represents 60 percent of the April 1980 adjusted parity price of 83.9 cents a pound.

Support prices for extracted honey, in 60-pound or larger containers, by color and class, are:

Table honey	Cents per pound
White or lighter	51.1
Extra light amber	50.1
Light amber	49.1
Other table and non-table honey	47.1

The 1980 loan and purchase program applies to honey marketed during the year beginning April 1, 1980. Support is available to eligible producers through loans and purchases which may be obtained at county ASC offices. Producers may apply for support through March 31, 1981. Loans mature no later than June 30, 1981.

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Commodity Research Bureau, Inc.
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HONEY

World Production of Honey In Thousands of Metric Tons[2]

Year	Argentina	Australia	Canada	China (Mainland)	Ethiopia	France	W. Germany	Japan	Mexico	Poland	Spain	Turkey	United States	U.S.S.R.	World Total
1968	30.9	44.0	33.4	43.8	*1968–*	18.3	33.1	21.0	80.2	14.6	21.0	30.0	200.1	231.5	993
1969	44.1	29.1	53.3	46.0	*72*	18.3	26.5	14.6	79.4	15.1	22.0	28.5	267.5	226.0	1,065
1970	55.1	49.1	51.0	36.4	*Avg.*	27.6	39.7	16.4	66.1	19.8	20.3	28.2	221.8	237.0	1,053
1971	38.8	42.2	52.0	35.5	*(17.5)*	26.5	33.1	17.0	55.1	22.8	18.1	36.0	197.4	237.0	1,030
1972	49.6	44.6	50.6	36.1		22.0	26.5	13.2	84.0	22.5	19.9	36.1	214.1	240.0	1,080
1973[2]	21.0	18.1	24.8	13.6	18.1	10.5	10.0	7.6	33.0	10.4	9.5	16.8	107.8	124.7	574.0
1974	27.0	21.2	20.8	50.0	18.8	9.7	16.5	7.6	42.0	10.9	9.5	17.2	84.0	79.0	597.4
1975	23.6	20.6	21.1	60.0	19.2	9.0	8.8	6.3	38.0	7.4	10.5	17.1	89.8	76.1	609.4
1976	28.0	21.4	25.4	55.0	19.4	14.5	22.0	6.1	44.0	9.6	11.0	19.0	90.0	82.0	666.8
1977	22.0	14.9	25.4	60.0	19.0	8.2	20.0	6.2	60.0	10.0	12.0	20.0	81.0	86.0	666.4
1978[1]	35.0	18.6	30.6	75.0	20.0	9.2	15.0	8.5	54.0	10.0	10.0	20.0	104.5	72.0	705.0
1979[1]	28.0	17.8	31.0	85.0	20.0	20.0	10.0	6.5	56.0	9.0	10.0	21.0	98.0	80.0	714.3
1980															

[1] Preliminary. [2] Data prior to 1973 are in MILLIONS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*

Salient Statistics of Honey in the United States

Year	Number of Colonies Thous.	Yield Per Colony Lbs.	Honey Production; By States							Domestic Disapp.	Imports For Consumption	Domestic Exports	Stocks Jan. 1[2]	Farm Price of All Honey	Wholesale Price Extracted	
			Total U.S.	California	Florida	Iowa	Minnesota	Texas	Wisconsin						Bees-Wax	Rec'd by Farmers
			In Millions of Pounds											¢ Lb.		
1967	4,635	46.6	215.8	30.2	17.9	12.7	20.4	9.2	11.1		16.8	11.7	58.8	15.6	58.8	13.5
1968	4,539	42.2	191.4	16.4	20.9	9.9	10.4	9.5	7.6		16.9	8.1	42.8	16.9	61.6	14.7
1969	4,433	60.3	267.5	46.4	25.3	11.0	21.1	11.6	14.8		14.7	9.9	62.7	17.5	61.1	15.2
1970	4,290	51.7	221.8	15.7	25.1	12.8	19.5	10.2	12.7	234.7	8.9	8.1	50.6	17.4	60.2	15.3
1971	4,110	48.0	197.4	19.9	22.2	9.0	12.2	8.4	11.6	220.9	11.4	7.6	30.9	21.8	61.3	18.0
1972	4,068	52.6	214.1	24.5	26.6	6.9	11.8	11.4	7.7	250.1	39.0	4.1	29.8	30.2	62.1	27.0
1973	4,124	58.0	239.1	31.0	33.5	7.5	15.3	9.9	11.4	224.9	10.7	17.6	30.1	44.4	74.4	43.0
1974	4,210	44.6	187.9	23.5	16.2	6.9	9.6	10.3	7.7	212.3	26.0	4.6	37.4	51.0	114.0	49.1
1975	4,206	47.4	199.2	24.5	24.5	5.9	10.9	12.9	5.5	242.8	46.4	4.0	34.4	50.5	103.0	47.8
1976	4,285	46.3	198.4	13.7	27.4	6.6	14.3	9.4	10.3	259.1	66.5	4.7	33.2	49.9	112.0	47.1
1977	4,346	41.1	178.5	13.7	14.4	6.1	12.0	9.0	9.6	241.1	63.9	5.5	34.3	53.0	158.0	49.4
1978	4,081	56.5	230.5	31.2	23.9	4.6	13.9	8.7	6.3	276.7	56.0	8.0	30.1	54.5	174.0	51.1
1979[1]	4,145	57.2	237.3	17.1	28.1	6.2	14.8	11.4	8.8	279.9	57.0	8.5	31.9			
1980[1]													37.8			

[1] Preliminary. [2] Prior to 1973, data are for producers' stocks for sale as of Dec. 15. *Source: Crop Reporting Board, U.S.D.A.*

Wholesale Price Index of Honey[1] (Extracted) at Chicago 1967 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.5	16.8	16.8	16.8
1968	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.3	16.8
1969	17.1	17.8	18.1	17.4	18.2	19.6	20.6	21.2	22.0	22.5	19.6	19.6	19.5
1970	20.1	20.1	20.1	20.1	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	19.2
1971[2]	18.8	18.8	18.8	18.8	18.8	18.8	20.3	188.0[2]	188.0	188.0	188.0	188.0	
1972	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0	188.0
1973	188.0	188.0	218.0	218.0	231.6	264.4	256.2	258.9	N.A.	258.9	272.5	337.9	244.8
1974	337.9	N.A.	337.9	343.3	343.3	307.9	N.A.	272.5	N.A.	272.5	343.3	343.3	322.4
1975	343.3	343.3	343.3	343.3	332.4	321.5	321.5	N.A.	248.0	N.A.	248.0	N.A.	316.1
1976	N.A.	N.A.	N.A.	223.4	231.6	224.8	N.A.	245.2	N.A.	245.2	235.4	234.3	234.3
1977	228.9	239.8	238.0	231.6	228.9	228.9	242.1	245.2	249.7	244.3	N.A.	247.3	238.6
1978	247.1	245.8	252.5	254.0	255.6	247.4	N.A.	250.5	248.7	248.4	246.4	246.5	249.4
1979	250.0	259.3	270.8	255.8	264.3	286.7	277.7	288.8	283.4	286.4	288.3	283.6	274.6
1980	286.8	289.6											

[1] White Clover, any state of origin, in 60 lb. cans, wholesaler to baker, confectioner, or other large user. [2] Prior to Aug. 1971, data are in cents per pound. Price for Aug. 1971 was 24.0¢ lb. *Source: Bureau of Labor Statistics* (0254-0101.01)

Interest Rates

Productivity declines and continued rapid inflation—spurred by rising energy costs and the mounting federal deficit—kept upward pressure on interest rates during most of 1979.

On October 6, 1979, the Board of Governors of the Federal Reserve System stopped attempting to control the federal funds rate in a new policy to gain "better control over the growth of money and bank credit, curbing speculative forces in foreign exchange and commodity markets, and thereby serving to dampen inflationary forces." The Fed's discount rate was raised to a then record 12 percent, and the Federal Open Market Committee announced that open market operations would be conducted with greater emphasis on measures of bank reserves to slow monetary growth.

By mid-January 1980, bond prices were crumbling as investors revised their expectations of future inflation sharply upward. By mid-March, prices had fallen as much as 15 percent, and the secondary markets for long term debt at times ceased to function. The bidding for short-term funds pushed rates to unprecedented levels. The rate of 90- to 119-day prime dealer-placed commercial paper rose from 13 percent in mid-January 1980 to nearly 17 percent by mid-March, and the prime rate soared to 20 percent.

On March 14, 1980, the Fed instituted additional measures to keep money supply growth within targets announced in February in terms of the redefined monetary aggregates introduced by the Fed on February 7, 1980. The target for *M*-1*A* was set at 3.5 to 6 percent growth for 1980, compared with 5.5 percent for 1979, while the target for *M*-1*B* was set at 4 to 6.5 percent, compared with 8 percent in 1979.

M-1*A* is essentially the old *M*-1 less demand deposits due foreign banks and official institutions. *M*-1*B* includes *M*-1*A* and interest-bearing checkable deposits (primarily NOW accounts). The new *M*-2, which is similar to the old *M*-3, consists of *M*-1*B* plus most savings deposits at all depositary institutions, overnight repurchase agreements issued by commercial banks, some overnight Eurodollar deposits, and money market mutual fund shares. The new *M*-3 includes *M*-2, term repurchase agreements and time deposits of $100,000 or more. The 1980 targets for growth of *M*-2 and *M*-3 are 6 to 9 percent and 6.5 to 9.5 percent, respectively.

Futures Markets

As of mid-May 1980, Government National Mortgage Association (Ginnie Mae) securities were traded on the Chicago Board of Trade, Amex Commodities Exchange (ACE), and Commodity Exchange Inc. (COMEX) of New York. U.S. Treasury bonds were traded on the CBOT and ACE, while 90-day Treasury bills were traded on the International Monetary Market (IMM), ACE and COMEX. The IMM also traded 1-year Treasury bills, while the CBOT offered 90- and 30-day commercial paper contracts. Both the IMM and CBOT traded Treasury note futures.

U.S. Producer (Wholesale) Commodity (All Commodities) Price Index 1967 = 100

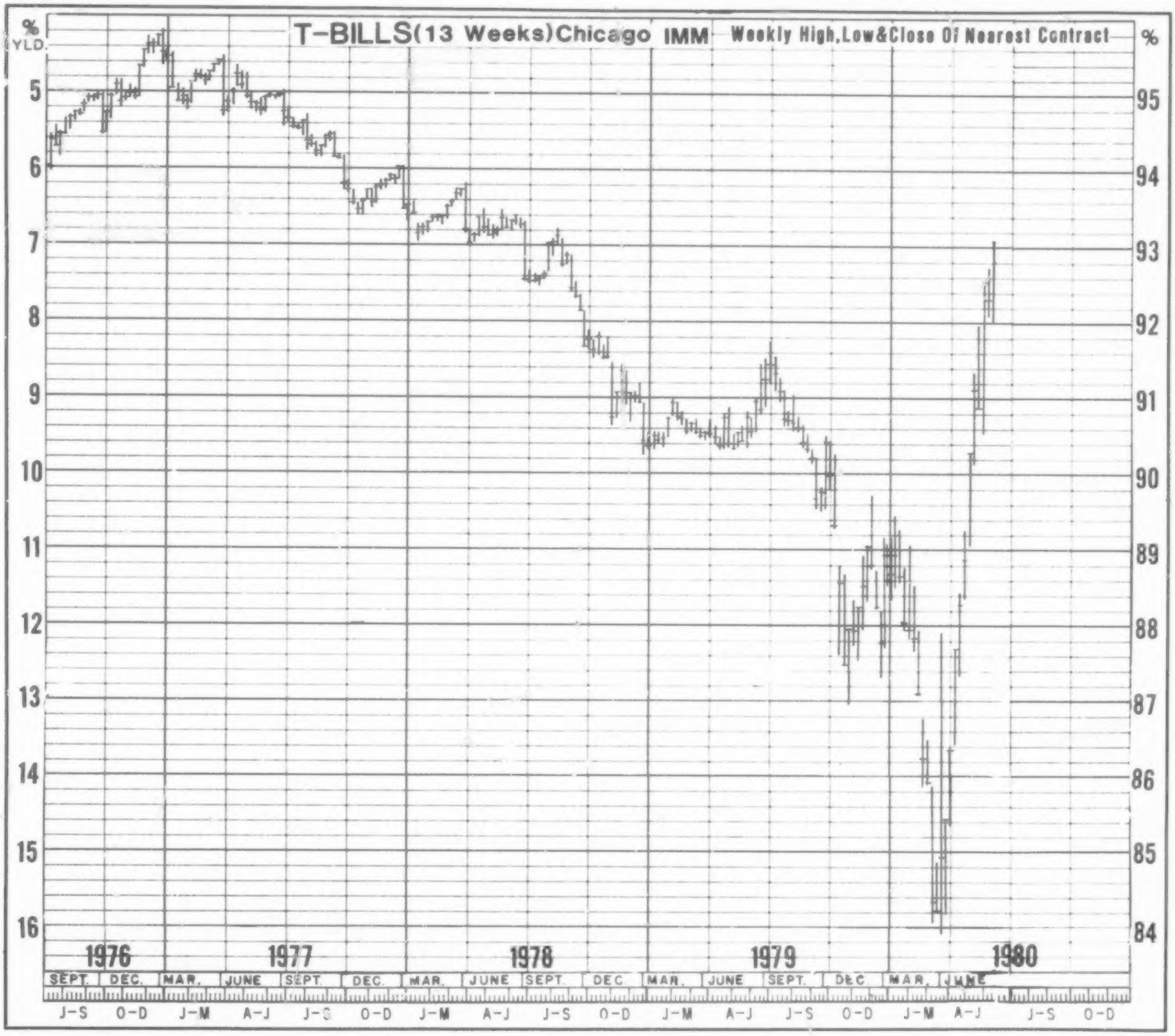
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1970	109.3	109.7	109.9	109.9	110.1	110.3	110.9	110.5	111.0	111.0	110.9	111.0	110.4
1971	111.8	112.8	113.0	113.3	113.8	114.3	114.6	114.9	114.5	114.4	114.5	115.4	113.9
1972	116.3	117.3	117.4	117.5	118.2	118.8	119.7	119.9	120.2	120.0	120.7	122.9	119.1
1973	124.5	126.9	129.8	130.5	133.2	136.0	134.3	142.1	139.7	138.7	139.2	141.8	134.7
1974	146.6	149.5	151.4	152.7	155.0	155.7	161.7	167.4	167.2	170.2	171.9	171.5	160.1
1975	171.8	171.3	170.4	172.1	173.2	173.7	175.7	176.7	177.7	178.9	178.2	178.7	174.9
1976	179.4	179.4	179.7	181.3	181.9	183.2	184.4	183.8	184.8	185.3	185.6	187.1	183.0
1977[1]	188.1	190.2	192.0	194.3	195.2	194.4	194.9	194.6	195.3	196.3	197.0	198.2	194.2
1978[1]	200.1	202.1	203.7	206.5	208.0	209.6	210.7	210.6	212.4	214.9	215.7	217.5	209.3
1979[1]	220.8	224.1	226.7	230.0	232.0	233.5	236.9	238.3	242.0	245.6	246.9	249.4	235.5
1980[1]	254.7	259.8	261.5	262.3									

[1] Preliminary. *Source: Bureau of Labor Statistics*

U.S. Retail Price Index (Consumer Price Index for All Items) 1967 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Average
1970	113.3	113.9	114.5	115.2	115.7	116.3	116.7	116.9	117.5	118.1	118.5	119.1	116.3
1971	119.2	119.4	119.8	120.2	120.8	121.5	121.8	122.1	122.2	122.4	122.6	123.1	121.3
1972	123.2	123.8	124.0	124.3	124.7	125.0	125.5	125.7	126.2	126.6	126.9	127.3	125.3
1973	127.7	128.6	129.8	130.7	131.5	132.4	132.7	135.1	135.5	136.6	137.6	138.5	133.1
1974	139.7	141.5	143.1	143.9	145.5	146.9	148.0	149.9	151.7	153.0	154.3	155.4	147.7
1975	156.1	157.2	157.8	158.6	159.3	160.6	162.3	162.8	163.6	164.6	165.6	166.3	161.2
1976	166.7	167.1	167.5	168.2	169.2	170.1	171.1	171.9	172.6	173.3	173.8	174.3	170.5
1977[1]	175.3	177.1	178.2	179.6	180.6	181.8	182.6	183.3	184.0	184.5	185.4	186.1	181.5
1978[1]	187.1	188.4	189.7	191.4	193.3	195.3	196.7	197.7	199.1	200.7	201.8	202.9	195.3
1979[1]	204.7	207.1	209.3	211.8	214.3	216.9	219.4	221.5	223.7	225.6	227.6	230.0	217.7
1980[1]	233.2	236.5	239.9				218.0	221.1	223.4	225.4	227.5	230.0	217.4

[1] Preliminary. *Source: Bureau of Labor Statistics*



U.S. Industrial Production Index[1] (Seasonally Adjusted) 1967 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1968	102.8	103.8	103.9	104.0	105.5	106.0	105.9	106.2	106.5	106.5	107.7	107.5	105.7
1969	108.4	109.7	110.3	110.2	110.2	110.8	111.5	111.4	111.9	111.7	110.3	109.9	110.7
1970	107.4	108.0	107.6	107.5	107.5	107.6	107.5	107.5	106.5	103.7	102.6	104.6	106.7
1971	105.5	106.0	106.0	106.5	107.4	107.4	106.8	105.6	107.1	106.8	107.4	108.1	106.8
1972	108.7	110.0	111.6	113.2	113.8	114.4	115.1	116.3	117.6	119.2	120.2	121.1	115.2
1973	126.3	127.8	128.5	128.5	129.6	129.9	130.4	130.4	131.1	131.4	131.6	131.3	129.8
1974	129.9	129.6	130.0	129.9	131.3	131.9	131.8	131.7	131.8	129.5	124.9	119.3	129.3
1975	115.2	112.7	111.7	112.6	113.7	116.4	118.4	121.0	122.1	122.2	123.5	124.4	117.8
1976	125.9	127.6	128.3	128.7	129.7	129.8	130.7	131.3	130.6	130.2	131.5	133.0	129.8
1977[2]	[illegible].3	133.2	135.3	136.1	137.0	137.8	138.7	138.1	138.5	138.9	139.3	139.7	138.2
1978[2]	138.8	139.2	140.9	143.2	143.9	144.9	146.1	147.1	147.8	148.7	150.6	151.8	146.1
1979[2]	151.5	152.0	153.0	150.8	152.4	152.6	152.8	151.6	152.4	152.2	152.1	152.2	152.1
1980[2]	152.6	152.3	151.3	148.5									
1981													

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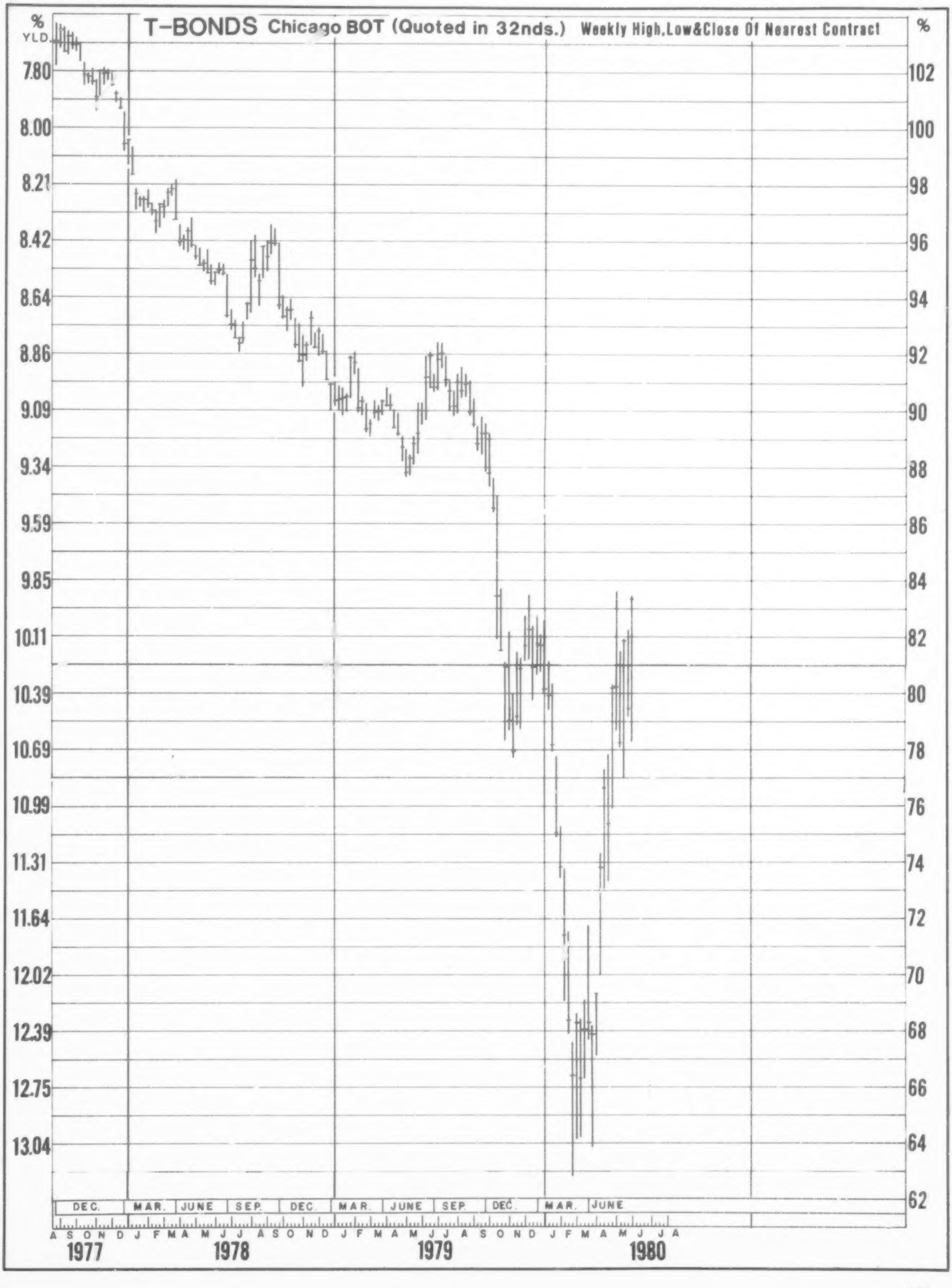
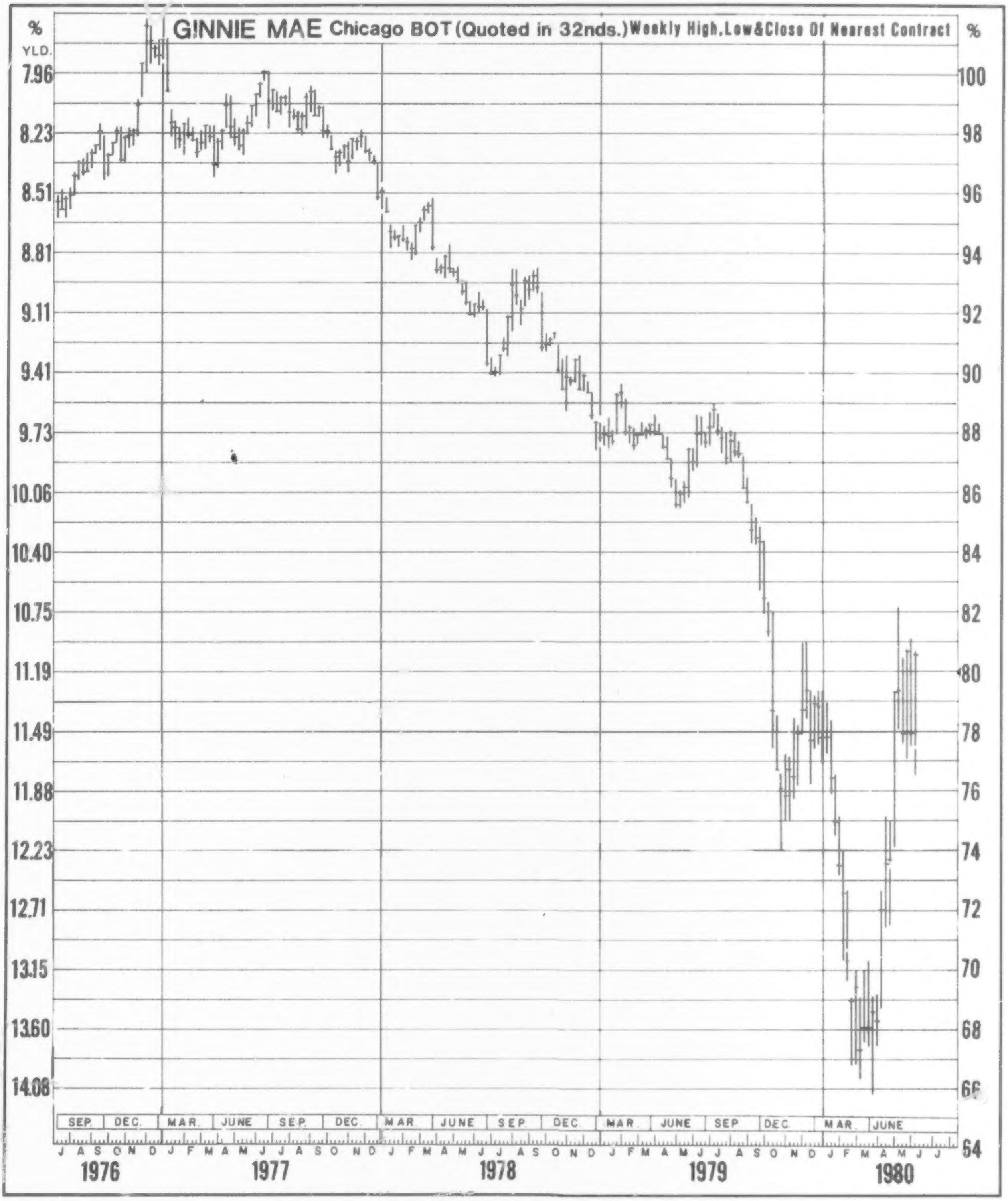
[1] Total Index of the Federal Reserve Index of Quantity Output. [2] Preliminary. *Source: Federal Reserve System*


T-BONDS Chicago BOT (Quoted in 32nds.) Weekly High,Low&Close Of Nearest Contract
% YLD.
7.80
8.00
8.21
8.42
8.64
8.86
9.09
9.34
9.59
9.85
10.11
10.39
10.69
10.99
11.31
11.64
12.02
12.39
12.75
13.04
%
102
100
98
96
94
92
90
88
86
84
82
80
78
76
74
72
70
68
66
64
62
DEC.
MAR.
JUNE
SEP.
DEC.
MAR.
JUNE
SEP.
DEC.
MAR.
JUNE
A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A
1977
1978
1979
1980


GINNIE MAE Chicago BOT (Quoted in 32nds.) Weekly High, Low & Close Of Nearest Contract
% YLD.
7.96
8.23
8.51
8.81
9.11
9.41
9.73
10.06
10.40
10.75
11.19
11.49
11.88
12.23
12.71
13.15
13.60
14.08
%
100
98
96
94
92
90
88
86
84
82
80
78
76
74
72
70
68
66
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SEP. DEC. MAR. JUNE SEP. DEC. MAR. JUNE SEP. DEC. MAR. JUNE SEP. DEC. MAR. JUNE
J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J
1976
1977
1978
1979
1980

U.S. Money Supply M1 (Demand Deposits Plus Currency) in 1972 $ In Billions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1974	243.6	241.8	240.6	239.4	237.4	236.9	235.8	233.5	231.3	230.1	229.6	228.1	235.7
1975	226.6	225.4	226.1	224.6	225.7	227.3	225.5	225.8	225.5	223.7	224.1	222.3	225.2
1976	222.5	223.9	224.1	224.5	225.0	224.1	223.8	223.9	223.7	224.9	225.0	225.3	224.2
1977	225.4	224.5	224.4	224.7	224.5	224.5	226.0	226.4	227.2	227.9	227.4	227.8	225.9
1978	228.4	227.2	226.0	227.2	227.1	226.3	226.2	226.6	226.9	225.4	223.7	222.8	226.2
1979[1]	220.1	217.0	215.2	216.1	213.9	214.5	214.3	213.2	213.0	211.3	209.5	207.9	213.8
1980[1]	205.4	204.6											

[1] Preliminary. *Source: Federal Reserve System*

U.S. Money Supply M2 (Demand Deposits Plus Time Deposits at Commercial Banks Other Than Large Co's) in 1972 $ In Billions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1974	516.1	514.0	512.2	511.7	507.9	507.2	506.1	502.4	498.4	497.4	495.9	493.0	505.2
1975	493.1	493.0	495.2	494.6	497.8	501.6	500.0	501.2	501.0	500.0	501.3	500.3	498.3
1976	503.9	509.3	511.3	513.9	515.5	515.7	517.0	519.0	521.5	525.7	528.7	531.8	517.8
1977	533.1	532.1	532.9	533.5	534.2	535.1	539.1	540.6	542.6	544.4	544.2	544.4	538.0
1978	545.0	543.8	541.6	542.1	541.8	540.9	541.6	543.4	544.5	543.4	543.1	541.8	542.6
1979[1]	537.0	531.9	528.4	528.9	525.5	526.6	527.1	526.3	526.0	524.6	522.3	518.3	526.9
1980[1]	513.4	511.0											

[1] Preliminary. *Source: Federal Reserve System*

U.S. Gross National Product, National Income, and Personal Income In Billions of Current Dollars[1]

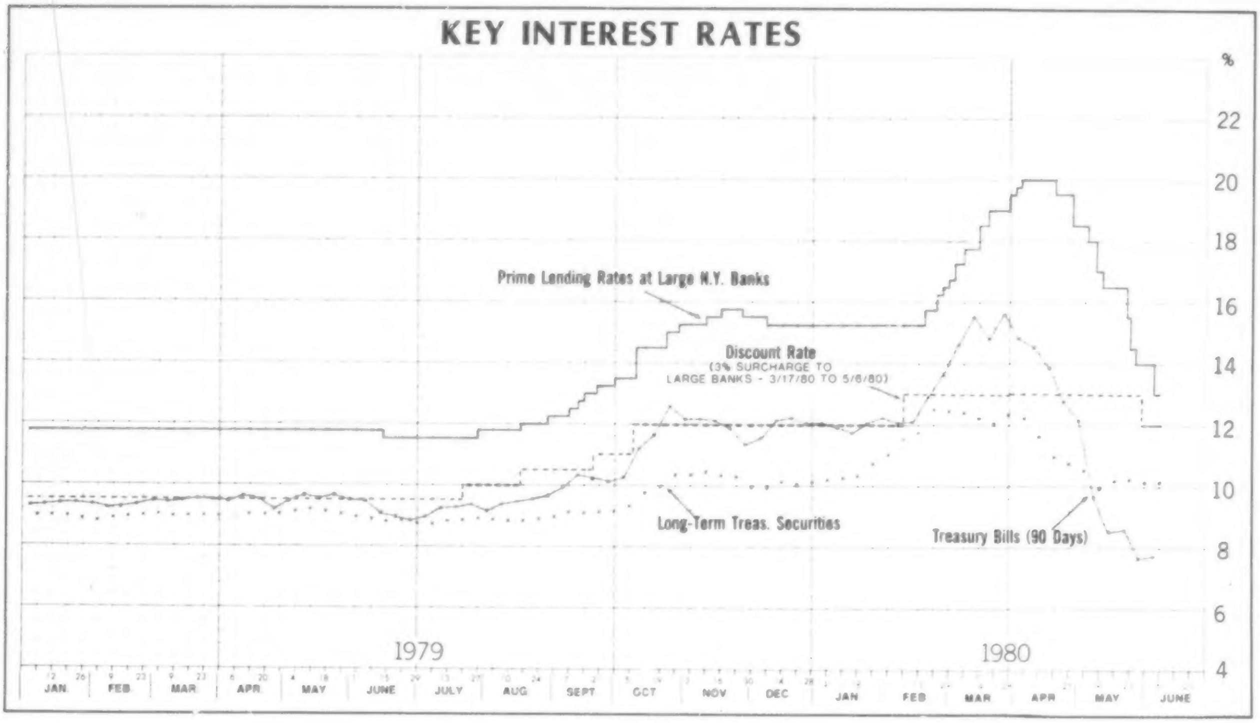
	Gross National Product					National Income					Personal Income				
Year	I	II	III	IV	Annual Total	I	II	III	IV	Annual Total	I	II	III	IV	Annual Total
1968	834.0	857.4	875.2	890.2	864.2	686.6	704.9	720.3	732.7	711.1	664.0	681.2	697.8	712.6	688.9
1969	907.0	923.5	941.7	948.9	930.3	746.6	761.9	774.6	781.0	766.0	726.5	743.3	759.6	774.3	750.9
1970	958.5	970.6	987.4	991.8	977.1	788.8	797.4	809.3	806.3	800.5	785.8	807.7	816.8	822.9	808.3
1971	1,034	1,056	1,072	1,091	1,063	835.0	851.8	863.4	882.1	858.1	835.5	854.7	864.7	881.4	859.1
1972	1,127	1,157	1,181	1,219	1,171	919.1	937.2	959.8	991.7	951.9	912.4	927.2	948.0	982.6	942.5
1973	1,265	1,288	1,320	1,355	1,307	1,031	1,053	1,078	1,103	1,065	1,012	1,039	1,068	1,096	1,052
1974	1,369	1,400	1,430	1,452	1,413	1,109	1,128	1,147	1,160	1,136	1,110	1,114	1,174	1,195	1,155
1975	1,455	1,499	1,564	1,598	1,529	1,157	1,189	1,243	1,272	1,215	1,205	1,238	1,274	1,305	1,255
1976	1,654	1,683	1,716	1,756	1,702	1,323	1,345	1,370	1,402	1,360	1,337	1,364	1,394	1,432	1,382
1977	1,820	1,876	1,931	1,971	1,900	1,457	1,505	1,551	1,590	1,526	1,473	1,509	1,549	1,596	1,532
1978[2]	2,011	2,104	2,160	2,235	2,128	1,621	1,704	1,753	1,820	1,724	1,635	1,689	1,743	1,803	1,717
1979[2]	2,292	2,330	2,397	2,457	2,369	1,869	1,898	1,942	1,990	1,925	1,853	1,893	1,946	2,005	1,924
1980[2]	2,520										2,057				

[1] Seasonally adjusted at annual rates. [2] Preliminary. *Source: U.S. Dept. of Commerce*

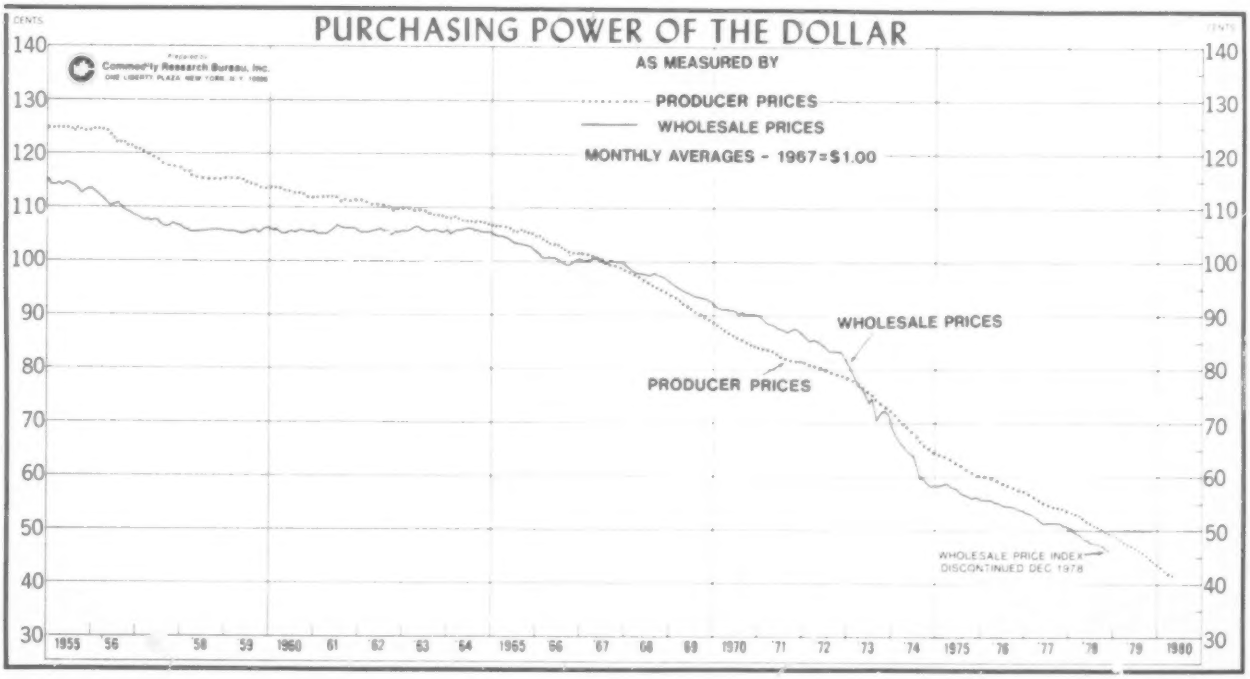
U.S. Unemployed Rate (All Civilian Workers)[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1975	8.2	8.2	8.7	8.9	9.2	8.6	8.7	8.5	8.6	8.6	8.5	8.3	8.5
1976	7.8	7.6	7.5	7.5	7.3	7.6	7.8	7.9	7.8	7.9	8.0	7.8	7.7
1977	7.4	7.6	7.4	7.1	7.1	7.1	6.9	7.0	6.8	6.8	6.7	6.4	7.0
1978	6.3	6.1	6.2	6.1	6.1	5.8	6.1	5.9	5.9	5.8	5.8	5.9	6.0
1979	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	5.8
1980	6.2	6.0	6.2										

[1] Unemployed as a percent of total. *Source: Bureau of Labor Statistics.*



KEY INTEREST RATES



PURCHASING POWER OF THE DOLLAR

Iron and Steel

World production of pig iron in 1979 increased 5.6 percent to 578.4 short tons and raw steel production rose 4.4 percent to 819.3 million tons, from 1978 levels, according to preliminary U.S. Bureau of Mines data.

U.S. production in 1979 of pig iron and raw steel, and shipments of finished steel and ferrous castings showed only small changes compared with those of 1978, according to the Bureau of Mines, U.S. Department of the Interior. Preliminary data indicate that domestic pig iron production in 1979 was 87 million short tons, slightly less than in 1978, and that raw steel production was 136 million tons, about 1 million tons less than in 1978. The industry's production rate as a percentage of its raw steel production capability was 80.9% at the beginning of the year, rose to a peak of 95.8% in the week ending June 2, and generally declined thereafter to give an annual average rate of about 89%.

Steel mill shipments increased slightly to 99 million tons and shipments of iron and steel castings remained about the same at 18 million tons.

Imports for consumption of major iron and steel products decreased 19% to 18 million tons in 1979. Japan was the leading exporter of steel to the United States, followed by the European Community. U.S. exports of steel remained about the same as in previous years.

Import quotas on specialty steels (stainless steel and alloy tool steel) were extended from June 14, 1979 to February 13, 1980, but were increased every 2 months up to December 1979, and were to be eliminated on February 13, 1980.

The trigger price mechanism (TPM) on imported steel was maintained during the year. Trigger prices were left unchanged in the second quarter of 1979, reduced an average of 1.4% in the third quarter, and left unchanged in the fourth quarter. However, in the fourth quarter, increases in freight and interest charges effectively raised trigger prices by amounts varying from $3 to $7 per ton. Under the TPM, the Department of the Treasury determined that carbon steel plate from Poland and Taiwan were being imported into the United States at less than fair value. The U.S. International Trade Commission later determined that U.S. industry was being injured by imports of plate from Taiwan, but was not being injured by imports from Poland.

The trigger price system on imported steel products (which places a floor under prices of imported steel) was suspended March 21, 1980 by the Commerce Department following the filing by United States Steel Corp. of complaints covering an estimated 75 percent of the 5.4 million tons of European steel shipped into the U.S. in 1979. Products involved included structural shapes, plates, hot-rolled sheets, cold-rolled sheets and galvanized sheets. The U.S. Steel complaints requested the Commerce Department to ignore domestic prices in figuring foreign market values on the basis that such prices are consistently less than the cost of production. The company said that the Commerce Department should determine antidumping duties in two ways: (1) on the basis of foreign market value using domestic prices and (2) on the basis of constructed values excluding the domestic price, applying the higher of the two duty calculations. (Dumping refers to the selling of imported products in the U.S. at prices below the prices of the same products in the country of origin.)

U.S. mine production of iron ore in 1979 was estimated at 84 million long tons, 4 percent more than in 1979, according to U.S. Bureau of Mines data. Total stocks of ore at U.S. mines, docks, and consuming plants at yearend were lower than a year earlier as consumption increased. Imports of iron ore for consumption were estimated at 35 million tons, 4 percent more than in 1978 while exports increased to an estimated 4.4 million tons. The use of coal for hardening iron ore pellets increased in 1979, in anticipation of reduced availability of natural gas or fuel oil. The Bureau of Mines continued research on gasification of coal for pelletizing fuel, in cooperation with the Department of Energy and private companies.

Iron and steel scrap is an important raw material both in steelmaking and in foundry production. In the last decade, the consumption of scrap has remained at about the same level as consumption of pig iron. For steelmaking, the proportion has been 43 to 46 percent scrap and for steel foundries, 95 to 98 percent.

Domestic consumption of iron and steel scrap in 1979 increased to approximately 101 million short tons, or about 2% more than in 1978, according to the Bureau of Mines, U.S. Department of the Interior. Apparent production of ferrous scrap in 1979 was estimated at 101 million short tons, consisting of 48 million tons of purchased scrap and 53 million tons of home scrap. Consumer stocks were estimated at 9.2 million short tons at yearend, up about 11% compared with stocks 1 year earlier. Net receipts (receipts minus shipments) of scrap were estimated at 48 million tons and receipts from dealers, brokers, and outside sources were an estimated 38 million tons.

IRON AND STEEL

World Production of Raw Steel (Ingots & Castings) In Millions of Short Tons

Year	Belgium	Canada	Czech.	France	W. Germany	Italy	Japan	Luxembourg	China	Poland	Sweden	U.S.S.R.	United Kingdom	United States	World Total
1967	10.7	9.7	11.0	21.7	40.5	17.5	68.5	4.9	12.1		5.3	112.7	26.8	127.2	544.1
1968	12.8	11.3	11.6	22.5	45.4	18.7	73.7	5.3	16.5		5.6	117.4	29.0	131.5	583.6
1969	14.1	10.3	11.9	24.8	50.0	18.1	90.6	6.1	18.0		5.9	121.6	29.6	141.3	632.6
1970	13.9	12.3	12.7	26.2	49.6	19.0	102.9	6.0	20.0		6.1	127.7	31.2	131.5	655.2
1971	13.7	12.2	13.3	25.2	44.4	19.2	97.6	5.8	23.0		5.8	133.0	26.6	120.4	640.5
1972	16.0	13.1	14.0	26.5	48.2	21.8	106.8	6.0	25.0		5.8	138.4	27.9	133.2	692.7
1973	17.1	14.8	14.5	27.8	54.6	23.1	131.5	6.5	30.0	15.5	6.2	144.9	29.4	150.8	769.1
1974	17.9	15.0	15.0	29.8	58.7	26.2	129.1	7.1	30.0	16.0	6.6	150.1	24.7	145.7	780.4
1975	12.8	14.4	15.8	23.7	44.6	24.1	112.8	5.1	28.0	16.5	6.2	155.8	22.3	116.6	710.1
1976	13.4	14.7	16.2	25.6	46.8	25.8	118.4	5.0	28.0	17.2	5.7	159.6	24.6	128.0	747.1
1977[1]	11.3	15.0	16.6	24.4	43.0	25.7	112.9	4.8	30.0	19.7	4.2	162.0	23.3	125.3	741.6
1978[2]				25.2	45.5		112.6						22.3	137.0	784.7
1979[2]				25.3	51.4		123.0						24.1	136.1	819.3
1980															

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

Salient Statistics of Steel in the United States In Millions of Short Tons

Year	Value of		Production									Shipments of Steel Products	
			Steel Ingots and Castings						Alloy Steel				
	Exports (Million $)	Imports (Million $)	Basic Oxygen	Open Hearth Acid	Open Hearth Basic	Bessemer	Electric[3]	Total Production	Stainless	Other	Total Production	Domestic Consumption	Export
1967			41.4	.1	70.6	.3	15.1	127.2	1.5	11.1	12.6	81.8	2.1
1968			48.8	[5]	65.8	[5]	16.8	131.5	1.4	12.4	13.8	88.2	2.7
1969			60.2	[5]	60.9	[5]	20.1	141.3	1.6	13.3	14.9	88.1	5.8
1970	1,375	2,139	63.3	[5]	48.0	[5]	20.2	131.5	1.3	11.5	12.8	83.1	7.7
1971	945	2,803	63.9	[5]	35.6	[5]	20.9	120.4	1.3	12.2	13.5	83.5	3.5
1972	1,006	2,992	74.6	[5]	34.9	[5]	23.7	133.2	1.6	14.0	15.6	88.3	3.5
1973	1,581	3,045	83.3	[5]	39.8	[5]	27.8	150.8	1.9	16.2	18.1	106.4	5.0
1974	3,012	5,583	81.6	[5]	35.5	[5]	28.7	145.7	2.2	17.0	19.2	102.5	7.0
1975	2,970	4,507	71.8	[5]	22.2	[5]	22.7	116.6	1.1	15.2	16.3	76.0	4.0
1976	2,462	4,584	79.9	[5]	23.5	[5]	24.6	128.0	1.7	14.3	16.0	86.4	3.0
1977[1]	2,284	5,936	77.4	[5]	20.0	[5]	27.9	125.3	1.9	15.3	17.2	88.0	3.1
1978[4]			83.5	[5]	21.3	[5]	31.9	137.0	2.0	18.2	20.0	94.6	3.3
1974[4]			83.3	[5]	19.2	[5]	33.5	135.9	2.1	18.0	20.2	98.3	2.0
1980													

[1] Preliminary. [2] Included under total steel production. [3] Includes crucible steels. [4] Estimate. [5] No longer published
Sources: American Iron & Steel Institute; U.S. Bureau of Mines

Index of U.S. Production of Steel Ingots, Rate of Capability Utilization[1] In Percent

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967[1]	98.4	102.9	101.5	99.0	97.9	91.6	89.0	95.3	99.8	103.4	108.1	110.6	100.0
1968	111.2	116.7	117.7	119.1	117.5	113.9	106.0	82.9	77.3	83.4	91.7	96.5	103.1
1969	102.6	111.8	114.8	116.1	114.4	113.0	105.2	105.7	110.2	114.1	114.0	109.3	111.0
1970	104.1	107.6	110.0	108.9	107.1	108.3	99.8	99.6	102.6	99.0	95.7	96.6	103.4
1971	104.3	111.4	117.0	120.2	119.6	109.9	92.0	53.4	73.4	76.0	77.0	81.3	94.7
1972	92.6	98.7	107.3	110.8	110.5	105.0	95.7	100.4	104.4	107.9	109.0	109.9	104.5
1973	114.5	119.1	121.1	122.3	121.9	119.4	113.8	112.7	117.0	119.2	120.4	117.7	118.5
1974	117.8	118.8	118.1	119.0	118.0	116.5	112.5	109.6	113.3	116.8	111.1	101.4	114.4
1975	107.2	111.4	No Longer Available										
1976[2]	74.4	80.1	85.4	88.4	90.8	89.7	84.8	82.8	80.4	75.8	72.2	67.8	80.9
1977	66.8	72.1	81.2	83.3	88.1	84.9	76.7	77.2	77.2	77.7	75.0	74.7	78.4
1978	77.2	80.1	83.1	88.5	91.5	91.1	85.1	86.3	88.6	89.8	89.4	87.7	86.8
1979	83.5	87.9	94.5	93.4	94.8	93.7	89.9	86.0	82.8	84.4	80.6	78.0	87.4
1980	82.7												

[1] Based on tonnage capability to produce raw steel for a full order book. [2] Data prior to 1976 are based on INDEX OF PRODUCTION 1967 = 100. *Source: American Iron and Steel Institute*

United States Production of Steel Ingots In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Total
1967	10,633	10,041	10,963	10,349	10,577	9,576	9,620	10,300	10,438	11,171	11,299	11,953	127,213
1968	12,015	11,795	12,721	12,450	12,700	11,906	11,452	8,956	8,086	9,006	9,590	10,421	131,462
1969	11,084	10,915	12,400	12,143	12,356	11,810	11,365	11,421	11,523	12,324	11,916	11,812	141,262
1970	11,243	10,498	11,886	11,386	11,574	11,323	10,781	10,765	10,726	10,699	10,008	10,438	131,514
1971	11,274	10,874	12,645	12,565	12,920	11,491	9,942	5,774	7,678	8,211	8,053	8,784	120,443
1972	10,001	9,980	11,588	11,588	11,936	10,980	10,341	10,842	10,913	11,657	11,398	11,878	133,241
1973	12,373	11,626	13,088	12,788	13,174	12,488	12,290	12,182	12,229	12,876	12,586	12,722	150,799
1974	12,726	11,598	12,758	12,442	12,752	12,185	12,155	11,837	11,849	12,617	11,615	10,960	145,720
1975	11,584	10,862	11,980	10,667	9,864	8,744	8,370	8,648	9,295	9,214	8,745	8,846	116,642
1976	9,835	9,907	11,294	11,439	12,136	11,605	11,400	11,128	10,463	10,295	9,494	9,215	128,000
1977[1]	9,089	8,859	11,049	11,167	12,201	11,384	10,319	10,392	10,050	10,442	9,748	10,031	125,333
1978[1]	10,301	9,643	11,083	11,528	12,320	11,861	11,388	11,550	11,467	12,105	11,654	11,812	137,031
1979[1]	11,105	10,562	12,576	12,196	12,789	12,230	11,821	11,309	10,541	10,891	9,997	9,996	136,013
1980[1]	10,701												

[1] Preliminary. *Source: American Iron and Steel Institute*

Shipments of Steel Products[1] by Market Classifications in the United States In Thousands of Net Tons

Year	Appliances, Utensils & Cutlery	Automotive	Containers	Construction	Contractors Prod.	Electrical Mach & Equipment	Export	Machinery Industrial Equip. & Tools	Oil and Gas	Rail Transportation	Steel for Converting & Processing[2]	Steel Service Center & Distributors	All Other[3]	Total Shipments
1967	2,092	16,488	7,255	8,866	4,582	2,808	1,407	4,994	2,509	3,225	2,837	14,863	11,971	83,897
1968	2,292	19,269	7,902	9,303	4,922	2,897	2,147	5,469	2,892	3,048	2,909	16,099	12,707	91,856
1969	2,248	18,276	7,145	9,178	4,768	2,813	5,004	5,690	2,224	3,344	3,237	17,565	12,385	93,877
1970	2,160	14,475	7,775	9,000	4,440	2,694	5,985	5,169	1,652	3,098	3,443	17,591	13,316	90,798
1971	2,148	17,483	7,212	9,541	4,946	2,593	2,433	4,903	1,760	3,004	3,593	16,184	11,238	87,038
1972	2,362	18,217	6,616	9,299	5,055	2,824	2,555	5,396	278	2,730	4,199	18,598	13,676	91,805
1973	2,747	23,217	7,811	11,405	6,459	3,348	3,138	6,351	409	3,228	4,714	22,705	15,898	111,430
1974	2,412	18,972	8,235	12,440	6,215	3,242	3,961	6,468	521	3,414	4,486	23,206	15,900	109,472
1975	1,653	15,214	4,589	8,767	3,927	2,173	1,755	5,173	601	3,152	3,255	15,622	14,076	79,957
1976	1,961	21,334	6,914	7,406	4,543	2,670	1,838	5,188	2,652	3,027	4,141	14,662	13,111	89,447
1977	2,129	21,490	6,714	7,553	4,500	2,639	1,076	5,566	3,650	3,238	3,679	15,346	13,567	91,147
1978	2,094	21,253	6,595	9,612	3,480	2,811	1,224	5,992	4,140	3,549	4,612	17,333	15,240	97,935
1979	2,141	18,624	6,770	10,058	4,021	2,821	2,010	6,027	3,738	4,127	4,728	18,263	16,934	100,262
1980														

[1] All grades including carbon, alloy & stainless steel. [2] Net total after deducting shipments to reporting companies for conversion or resale. [3] Includes agricultural; bolts, nuts, rivets & screws; forgings (other than automotive); shipbuilding & marine equipment; aircraft; mining, quarrying & lumbering; other domestic & commercial equipment machinery; ordnance & other direct military; & shipments of non-reporting companies. *Source: American Iron and Steel Institute*

Net Shipments of Steel Products in the United States
(All Grades, Including Carbon, Alloy & Stainless Steel) In Thousands of Net Tons

Year	Cold Finished Bars	Rails & Accessories	Wire & Wire Products	Tin Mill Products	Plates	Sheets & Strip	Hot Rolled Bars	Pipe & Tubing	Shapes & Steel Piling	Reinforcing Bars	Hot Rolled Sheets	Cold Rolled Sheets	Semi-Finished	Alloy	Stainless
1967	1,733	1,434	3,133	6,591	7,948	32,574	7,961	8,969	6,133	3,249	9,312	14,709	4,061	7,016	837
1968	1,815	1,462	3,393	7,267	8,401	36,624	8,497	10,078	6,149	3,241	10,782	16,336	4,821	7,816	808
1969	1,923	1,514	3,256	6,555	8,238	38,111	8,659	9,232	6,244	3,659	12,471	16,427	6,373	7,861	898
1970	1,490	1,590	2,998	7,243	8,065	35,101	8,107	7,778	6,060	4,891	12,319	14,250	7,387	6,944	709
1971	1,378	1,564	2,791	6,811	7,939	35,574	8,179	7,574	5,666	4,521	11,760	14,898	4,962	7,014	718
1972	1,675	1,601	2,952	6,135	7,553	39,862	9,299	7,609	5,656	4,454	14,036	16,123	4,917	7,777	855
1973	2,161	1,689	3,245	7,316	9,678	49,370	10,763	9,133	7,081	5,135	16,886	20,377	5,749	9,372	1,134
1974	2,251	1,785	3,171	7,528	10,919	44,991	11,061	9,844	7,210	5,089	15,774	18,275	5,509	10,179	1,345
1975	1,486	1,965	2,154	5,587	8,761	30,763	8,146	8,228	5,121	3,666	11,222	12,841	3,911	8,436	757
1976	1,618	2,017	2,461	6,436	7,160	42,303	8,664	6,265	4,187	3,876	15,090	18,265	4,384		
1977	1,792	1,863	2,401	6,382	7,538	41,586	9,251	7,484	4,379	4,234	14,484	17,627	4,055	8,760	1,118
1978	2,084	1,703	2,510	6,100	8,601	43,609	8,758	8,399	5,027	4,704	15,447	17,821	5,070	10,557	1,191
1979[1]	2,245	2,026	2,449	6,310	9,035	43,507	8,493	8,242	5,596	5,303	15,995	17,284	5,496	11,023	1,361
1980															

[1] Preliminary. *Source: American Iron & Steel Institute*

IRON AND STEEL

U.S. Exports of Major Iron & Steel Products[1] In Thousands of Short Tons

Year	Blooms, Billets, Ingots, etc[2]	Coils for Re-rolling	Bars, Rods, & Hollow-Drill Steel	Steel Sheets	Iron & Steel Plates	Tin Plate & Terne-Plate	Hoop & Strip	Cast Iron Pipe & Fittings	Seamless Tubes & Pipe	Welded, Clinched, Tubes & Pipe	Castings & Forgings	Steel Tube & Pipe Fittings Union & Flanges	Rails & Track Materials	Wire Cables, Ropes, Etc.	Angles, Shapes & Sections
1967	302.5	60.5	78.9	138.6	254.4	283.5	56.9	64.6	183.8	70.6	105.5	30.5	32.3	49.1	113.8
1968	551.7	50.4	100.2	273.0	209.3	293.3	56.0	49.1	228.9	93.7	176.5	29.9	89.5	63.7	121.9
1969	1,810	421.5	215.7	1,040	403.7	339.6	111.6	32.4	252.0	73.8	205.6	30.0	73.1	82.5	170.4
1970	3,170	340.6	216.4	1,268	292.8	341.3	376.1	33.6	243.8	100.7	255.7	35.1	81.8	72.9	212.4
1971	873.5	14.3	129.9	583.0	161.9	224.1	129.1	23.8	222.8	111.6	295.6	32.3	63.8	62.7	164.0
1972	415.4	85.5	166.8	396.9	198.7	290.3	404.2	37.4	236.6	187.5	371.9	24.7	119.5	69.8	124.8
1973	547.0	43.7	239.6	658.4	473.9	419.3	268.8	34.1	377.0	207.9	439.3	55.6	127.5	88.5	272.5
1974	804.8	149.6	403.0	1,027	536.3	500.9	394.7	52.2	628.1	268.4	481.1	84.3	173.2	127.6	397.6
1975	323.3	8.6	174.8	191.9	278.6	266.6	83.9	78.6	793.6	255.7	407.7	108.8	209.5	114.9	210.0
1976	260.7	11.6	175.4	309.2	155.3	385.5	248.5	71.7	371.1	144.9	488.5	99.0	170.1	130.0	121.8
1977[1]	248.0	11.6	145.8	153.2	130.7	341.9	83.6	73.6	297.0	123.1	479.9	98.3	129.5	127.0	106.4
1978															

[1] Preliminary. [2] Also, slabs, sheet bars & roughly forged pieces. *Source: Bureau of Mines*

U.S. Imports for Consumption of Major Iron & Steel Products In Thousands of Short Tons

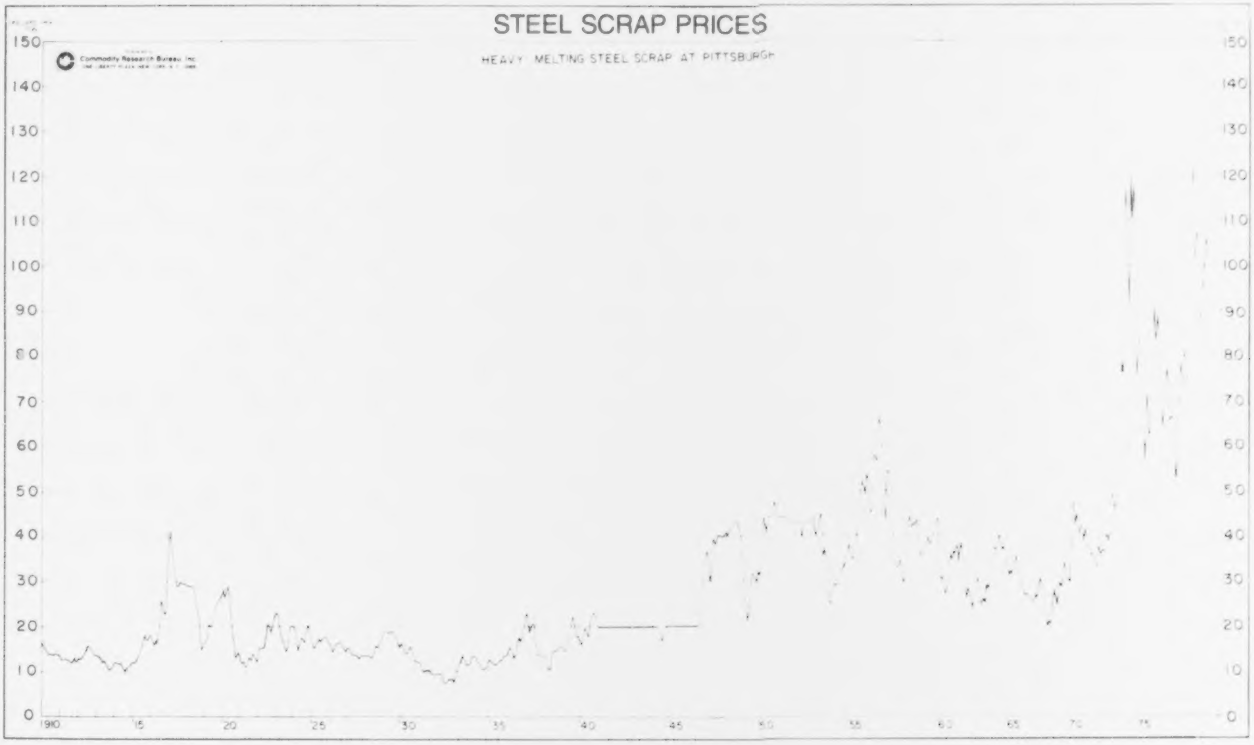
Year	Steel Bars	Wire Rods of Steel	Tinplate, Terneplate & Taggers' Tin	Steel Ingots[2]	Sheet Piling	Cast-Iron Pipes, Tubes & Fittings	Angles, Shapes & Sections	Rails & Track Material	Pipes, Tubes & Fitt.	Steel Plate	Strips of Iron or Steel	Wire	Structural Iron & Steel	Steel Sheets	Total (All)
1967	1,218	1,076	156.4	220.3	29.7	27.3	506.4	36.4	1,104	1,025	67.6	577.0	1,150	4,213	11,831
1968	1,717	1,601	227.7	298.7	67.5	39.1	668.7	53.2	1,665	1,790	91.0	726.5	1,559	7,324	18,346
1969	1,375	1,261	300.7	195.2	66.0	34.4	522.6	67.6	1,703	1,202	96.2	709.4	1,517	4,874	14,528
1970	930.4	1,056	327.7	170.6	52.3	28.2	416.1	72.3	1,977	968.7	92.3	648.9	1,301	5,272	13,861
1971	1,545	1,538	417.7	274.4	89.2	24.3	550.4	68.9	1,889	1,573	114.9	665.9	1,637	7,747	18,744
1972	1,412	1,043	522.5	261.7	94.8	25.6	562.9	74.8	1,887	1,686	135.4	678.0	1,746	6,959	18,158
1973	1,243	1,416	470.3	172.3	81.2	14.7	457.5	77.7	1,681	1,349	116.4	613.6	1,375	5,838	15,608
1974	1,347	1,951	319.0	182.9	84.2	13.2	521.6	117.5	1,953	1,729	98.1	702.4	1,229	5,690	16,746
1975	757	1,113	408.4	242.8	63.7	15.8	167.3	175.4	1,779	1,394	71.5	433.6	903.3	4,411	12,488
1976	772	1,121	311.9	240.1	63.1	19.0	309.9	113.7	1,959	1,736	75.8	451.1	1,434	5,527	15,038
1977[1]	1,100	1,341	448.2	297.7	74.0	21.5	263.6	207.2	2,531	2,116	94.9	556.3	1,872	8,047	19,930
1978[1]															22,100
1979[1]															17,900

[1] Preliminary. [2] Also blooms & slabs; billets, slabs & sheet bars. *Sources: Bureau of the Census; U.S. Dept. of Commerce*

Average Wholesale Prices of Iron and Steel in the U.S. In Dollars Per Net Ton

Year	Pig Iron			Steel Billets Pitts.	No. 1 Heavy Melting Steel Scrap		Cents Per Pound at Pittsburgh								
	Bessemer[2] Neville Isl., Pa.	No. 2 Foundry, F.O.B. Buffalo	No. 2 F.O.B. Birmingham		Pitts.	Chicago	Tin Plate (¼ Lb.)	Hot Rolled Sheet	Steel Bars		Structural Shapes	Carbon Steel Plates	Cold Rolled Strip	Galvanized Sheets	Wire Rods-Chi. $ Gr. Ton
									Hot Rolled	Cold Finished					
1967	64.00	63.50	59.50	87.61	26.95	27.96	9.60	6.05	5.92	8.06	5.85	5.62	7.83	9.39	6.43
1968	64.00	63.50	59.50	89.00	27.21	25.58	9.50	5.71	6.14	8.35	5.98	5.88	8.07	9.63	6.66
1969	65.09	64.59	60.59	97.16	31.61	29.21	7.85	6.58	6.56	8.96	6.36	6.26	8.66	9.91	7.08
1970	70.69	70.19	66.19	103.98	42.18	41.69	9.00	7.27	7.01	9.49	6.84	6.74	9.33	10.92	7.42
1971	77.42	77.42	70.50	115.00	36.71	33.49	9.60	7.76	7.89	10.57	7.55	7.50	9.98	9.40	8.20
1972	82.22	83.23	75.50	125.00	38.42	35.94	9.60	8.36	7.13	11.50	8.10	8.15	10.94	10.53	8.80
1973	79.82	80.08	70.03	126.00	57.61	57.29	10.00	8.40	8.38	12.00	8.50	8.50	10.55	11.03	9.15
1974	124.81	130.69	141.25	166.68	104.61	112.68	11.83	9.98	11.15	13.71	9.92	11.60	12.78	12.61	10.42
1975	181.00	190.51	181.00	195.00	72.01	71.35	14.15	11.93	11.43	15.95	12.07	13.16	15.89	15.03	12.93
1976	181.00	191.00	181.00	209.48	78.83	77.49	15.83	12.12	11.32	17.38	12.96	13.41	17.97	16.20	13.31
1977	184.03	191.00	184.33	246.15	66.42	60.21	17.74	13.75	12.68	20.15	13.85	14.64	20.33	18.05	14.56
1978[1]	190.00	191.00	191.00	282.88	78.48	73.98	19.30	15.36	14.01	22.80	15.73	16.53	22.49	20.21	16.80
1979[1]					100.77	96.69									
1980															

[1] Preliminary. [2] Prior to 1974 prices are F.O.B. Mahoning Valley. *Source: American Metal Market*



Wholesale Price of No. 1 Heavy Melting Steel Scrap at Chicago In Dollars Per Gross Ton

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	27.86	27.72	29.18	26.50	26.55	27.50	27.50	27.93	29.85	26.82	28.50	29.55	27.96
1968	30.77	30.45	26.88	24.81	23.50	21.48	20.98	20.50	21.40	20.50	23.22	22.50	25.58
1969	25.64	28.39	25.83	24.74	29.50	29.45	28.60	30.95	33.60	30.89	29.62	33.25	29.21
1970	40.50	48.89	45.74	39.68	42.85	43.95	40.84	40.76	45.96	41.19	34.36	35.50	41.69
1971	42.85	43.76	36.89	33.60	34.35	30.89	28.00	28.48	32.45	32.29	29.50	28.76	33.49
1972	31.50	33.58	35.89	34.50	34.50	34.55	35.50	37.50	37.50	37.50	37.50	41.23	35.94
1973	45.00	48.66	45.55	44.17	48.41	51.00	51.00	51.41	56.45	70.36	86.55	88.90	57.28
1974	87.18	114.58	125.64	132.34	100.75	115.25	137.72	119.68	113.90	114.00	107.43	83.67	112.68
1975	79.91	82.61	81.14	83.77	76.14	64.95	54.00	68.41	77.33	64.39	60.08	63.46	71.36
1976	71.67	74.90	85.04	94.96	86.45	86.86	90.67	80.95	68.90	62.00	62.00	65.14	77.46
1977	69.00	69.00	69.65	70.79	64.62	58.36	57.00	57.00	55.00	49.00	43.95	59.26	60.21
1978	71.00	71.00	71.48	76.00	70.32	72.73	76.63	74.48	69.00	69.45	79.35	86.35	73.98
1979	93.00	103.00	121.73	110.10	91.91	106.62	98.62	89.96	86.00	86.22	91.00	91.28	96.69
1980	96.14	99.00	97.00	90.54									
1981													

Source: American Metal Market

IRON AND STEEL

World Production of Pig Iron (Excludes Ferro-Alloys) In Millions of Short Tons

Year	Australia	Belgium	Canada	Czech.	France	W. Germany	India	Italy	Japan	Luxembourg	Poland	China	U.S.S.R.	United Kingdom	United States	World Total
1967	5.6	9.8	7.1	7.5	17.0	29.9	7.6		44.2	4.4		15.4	81.0	16.8	86.8	385.7
1968	6.1	11.4	8.4	7.6	17.7	33.0	7.9		51.1	4.7		20.9	85.3	18.2	88.8	418.1
1969	6.7	12.5	7.5	7.7	19.6	37.0	8.1		64.1	5.4		22.0	88.7	18.4	95.0	453.1
1970	6.8	12.0	9.1	8.3	20.7	36.6	7.8		75.0	5.3		24.3	83.5	19.3	91.3	474.8
1971	6.8	11.5	8.6	8.8	19.7	32.7	7.4		80.2	5.1		30.0	97.3	16.8	81.4	474.0
1972	7.2	13.0	9.4	9.2	20.4	34.9	7.9		81.6	5.1		29.0	101.8	16.7	88.9	500.1
1973	8.4	14.0	10.5	9.4	21.8	40.2	8.3	11.1	99.2	5.6	8.4	31.0	104.7	18.4	101.3	552.4
1974	8.0	14.4	10.4	9.8	24.2	43.9	8.1	12.9	99.7	6.0	8.4	33.0	109.0	15.6	95.5	564.2
1975	8.2	10.0	10.1	10.2	19.3	32.9	9.1	12.5	95.8	4.3	8.4	35.0	112.4	13.3	79.7	528.3
1976	8.2	10.9	10.8	10.4	20.6	34.8	10.8	12.8	95.4	4.1	8.7	33.0	116.2	15.1	86.8	551.2
1977[1]	7.4	9.8	10.6	10.7	19.7	31.6	11.1	12.6	94.7	3.9	10.5	33.0	117.1	13.1	81.5	542.7
1978[2]					20.4	33.2			86.1					12.8	87.7	547.6
1979					21.0	39.1			92.3					14.5	87.0	578.4
1980																

[1] Preliminary. [2] Estimated. *Source: Bureau of Mines*

Consumption of Pig Iron in the U.S., by Type of Furnace or Equipment In Thousands of Net Tons

Year	Open Hearth	Bessemer	Electric	Cupola	Air	Basic Oxygen Concentrates	Other Furnaces	Direct Castings	Total
1967	46,386	87	387	3,162	147	33,553	—	3,658	87,371
1968	40,145	[3]	519	2,909	[3]	39,284	273	[3]	83,131
1969	37,976	[3]	332	2,911	92	48,610	3	[3]	89,924
1970	32,204	[3]	453	2,076	94	51,730	10	[3]	86,567
1971	23,574	[3]	825	1,865	60	52,023	204	[3]	78,551
1972	22,375	[3]	961	2,264	139	60,233	254	[3]	86,226
1973	25,477	[3]	1,379	2,276	57	68,027	402	[3]	97,618
1974	22,507	[3]	1,220	2,123	[3]	66,614	632	3,697	96,792
1975	14,554	[3]	1,019	1,362	[3]	59,210	483	3,010	79,638
1976	15,410	[3]	638	1,197	[3]	66,138	406	3,255	87,045
1977[1]	12,531	[3]	993	1,241	[3]	63,877	354	3,007	82,003
1978[2]									88,100
1979									

[1] Preliminary. [2] Estimate. [3] Included in "Other Furnaces." *Source: Bureau of Mines*

U.S. Pig Iron Production (Excluding Production of Ferro-Alloys) In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	7,374	6,804	7,587	7,215	7,321	6,639	6,696	6,951	7,055	7,530	7,626	8,182	86,984
1968	8,097	7,841	8,476	8,443	8,706	8,244	8,021	6,333	5,481	5,916	6,218	7,020	88,780
1969	7,296	7,225	8,196	8,150	8,414	8,055	7,836	7,699	7,739	8,292	7,955	8,132	95,017
1970	7,668	7,062	8,059	7,790	8,122	7,874	7,618	7,578	7,414	7,527	7,233	7,557	91,435
1971	7,804	7,378	8,518	8,421	8,783	7,930	6,851	3,701	5,148	5,532	5,350	5,930	81,299
1972	6,617	6,598	7,708	7,726	8,012	7,427	7,321	7,385	7,116	7,606	7,475	7,960	88,942
1973	8,199	7,756	8,627	8,490	8,809	8,468	8,516	8,282	8,087	8,588	8,402	8,609	100,837
1974	8,563	7,804	8,386	8,233	8,387	8,185	8,337	7,872	7,713	8,187	7,250	6,731	95,909
1975	7,304	7,135	8,071	7,432	6,990	6,239	5,968	6,031	6,245	6,292	5,981	6,234	79,923
1976	6,636	6,754	7,519	7,601	8,116	7,874	7,999	7,751	6,995	6,969	6,382	6,272	86,870
1977	5,985	5,827	7,174	7,382	7,962	7,530	7,008	6,763	6,566	6,636	6,121	6,419	81,328
1978	6,390	5,971	6,894	7,189	7,936	7,754	7,637	7,518	7,391	7,809	7,533	7,688	87,687
1979	7,064	6,636	7,953	7,726	8,277	8,026	7,505	7,351	6,762	6,779	6,258	6,372	86,709
1980	6,583												

Source: American Iron and Steel Institute

Salient Statistics of Ferrous Scrap & Pig Iron in the U.S. In Millions of Short Tons

	Consumption: Ferrous Scrap & Pig Iron Charged To														
	Mfg. of Pig Iron & Steel Ingots & Castings			Iron Foundries & Misc. Users			Mfg. of Steel Castings (Scrap)	All Uses					Stocks—Dec. 31 Ferrous Scrap & Pig Iron at Consumers'		
Year	Scrap	Pig Iron	Total	Scrap	Pig Iron	Total		Ferr Scrap	Pig Iron	Grand Total	Imports of Scrap	Exports of Scrap	Scrap	Pig Iron	Total Stocks
1967								85.4	87.4	172.8	.2	7.7	7.8	2.8	10.6
1968								87.0	90.0	177.0	.3	6.7	7.9	2.3	10.2
1969								94.8	94.6	189.4	.3	9.3	6.6	1.7	8.3
1970								85.6	90.1	176.3	.3	10.1	7.7	2.1	9.8
1971	64.6	76.6	141.2	15.2	1.9	17.1	2.8	82.6	81.2	163.8	.3	6.1	8.5	1.8	10.3
1972	73.4	84.0	157.2	17.3	2.1	19.4	2.7	93.4	89.1	182.5	.3	7.2	8.2	1.7	9.8
1973								103.6	99.8	203.4	.3	10.9	7.1	1.2	8.3
1974[1]	81.1	92.8	173.9	21.1	3.9	25.0	3.3	105.5	96.8	202.3	.2	8.5	8.4	.8	9.2
1975[1]	62.8	76.8	139.6	16.3	2.7	19.0	3.2	82.3	79.6	161.9	.3	9.4	8.8	1.4	10.2
1976[1]	68.4	84.2	152.6	18.6	2.8	21.4	2.9	89.9	87.0	176.9	.5	7.9	10.0	1.5	11.5
1977[1]	69.3	79.4	148.3	20.0	2.6	22.6	2.9	92.2	82.0	174.2	.6	5.9	9.2	1.3	10.5
1978[1]								99.1	88.4	187.5	.7	9.0	8.3	.9	9.2
1979[1]								98.9	87.4	186.3	.7	11.5	9.2	.9	10.1

[1] Preliminary. [2] Including tinplate scrap. [3] Excluding tinplate circles, strips, cobbles, etc. *Source: Bureau of Mines*

Basic Pig Iron Prices at Valley Furnaces (F.O.B. Producing Point) In Dollars Per Short[1] Ton

Year	Jan.	Feb.	Mar	Apr.	May	June	July	Aug	Sept	Oct	Nov.	Dec	Average
1967	63.00	63.00	63.00	63.00	63.00	63.00	62.00	63.00	63.00	63.00	63.00	63.00	63.00
1968	63.00	63.00	63.00	63.00	63.00	63.00	63.00	63.00	63.00	63.00	63.00	63.00	63.00
1969	63.00	63.00	63.00	63.00	63.00	63.00	63.00	65.50	65.50	65.50	65.50	65.50	64.00
1970	65.50	65.50	65.50	68.50	68.50	68.50	67.92	67.92	73.33	73.33	73.33	73.33	69.26
1971	73.33	73.33	73.33	73.33	73.33	73.33	78.35	78.33	78.33	78.33	78.33	78.33	75.83
1972	78.33	78.33	78.33	78.33	80.88	80.88	80.88	80.88	80.88	80.88	80.88	80.88	79.95
1973	71.99	71.99	75.89	75.89	75.89	75.89	75.89	75.89	75.89	75.89	75.89	75.89	75.24
1974	75.89	77.44	82.81	96.00	96.00	133.80	133.80	149.88	149.88	150.63	155.75	169.40	122.61
1975	179.88	179.88	179.88	182.38	182.38	182.38	182.38	182.38	182.38	182.38	182.38	182.38	181.76
1976	182.38	182.38	182.38	182.38	182.38	182.25	—	—	—	—	182.25	182.25	182.33
1977	182.25	182.25	—	178.00	178.00	178.00	178.00	178.00	191.00	191.00	191.00	191.00	183.11
1978	191.00	191.00	191.00	191.00	191.00	191.00	191.00	203.00	203.00	203.00	203.00	203.00	196.00
1979	203.00	203.00	203.00	203.00	203.00	203.00	203.00	202.50	202.50	202.50	202.50	202.50	203.00
1980	203.00												

[1] Prior to May '73, prices are for long ton. *Sources: American Metal Market; Bureau of Labor Statistics*

World Production of Iron Ore[3], by Specified Countries (Gross Weight) In Millions of Long Tons

Year	Australia	Austria	Brazil	Canada	Chile	China	France	W. Germany	India	Liberia	Spain	Sweden	United Kingdom	United States	U.S.S.R.[1]	Venezuela	World Total[1]
1967	16.9	3.4	21.9	37.8	10.6	27.5	48.4	6.7	25.7	17.9	5.0	27.9	12.7	84.2	165.6	16.7	612.8
1968	26.2	3.4	24.7	42.4	11.7	37.0	54.4	6.3	27.0	19.3	5.9	31.9	13.7	85.9	173.8	15.9	668.1
1969	38.0	3.9	26.7	35.8	11.4	39.0	54.6	6.0	29.1	22.5	6.3	32.7	12.1	88.3	183.2	19.4	701.5
1970	50.4	3.9	39.6	46.7	11.1	43.0	55.9	5.4	30.9	23.3	6.9	31.0	11.8	89.8	192.4	21.8	757.0
1971	61.1	4.1	42.0	43.0	11.0	54.0	55.0	4.9	33.7	23.0	7.2	33.8	10.1	80.8	199.8	20.0	774.7
1972	62.8	4.1	41.4	39.7	8.5	59.0	53.4	4.7	34.9	22.2	6.6	32.6	8.9	75.4	204.8	18.2	766.2
1973	83.5	4.1	49.7	49.4	9.3	55.0	53.4	5.0	35.0	23.2	6.5	34.2	7.0	87.7	212.7	22.7	832.3
1974	95.4	4.2	74.3	49.2	10.1	60.0	53.4	4.4	34.9	23.4	8.1	35.6	3.5	84.4	221.3	26.0	883.8
1975	96.1	3.8	88.5	46.1	10.8	64.0	48.9	3.2	40.8	24.0	7.5	30.4	4.4	78.9	229.1	24.4	888.2
1976	91.8	3.7	92.6	57.6	9.9	64.0	44.5	2.2	42.8	18.5	7.5	29.4	4.5	80.0	235.3	18.4	886.2
1977[2]	94.6	3.4	86.0	55.4	7.8	64.0	36.1	2.4	41.6	17.9	7.8	25.0	3.7	55.8	233.9	14.2	844.0
1978[1]	81.9		84.0	41.1		69.0	32.9		37.6	18.5		21.1		81.5	237.0	13.4	833.6
1979[1]	84.0		86.0	53.0		69.0	32.0		40.0	20.0		24.0		84.0	240.0	13.0	864.0
1980																	

[1] Estimate. [2] Preliminary. [3] Iron ore, iron ore concentrates and iron ore agglomerates. *Source: Bureau of Mines*

IRON AND STEEL

Salient Statistics of Iron Ore[2] in the U.S. In Millions of Long Tons

Year	Production							Avg.	Stocks—Dec. 31						
	Total[3]	Lake Superior	Northeast	Southeast	West	Shipments[4]	Value Mill. $ (at Mine)	Value $ at Mine Per Ton	Mines	Consuming Plants	Lake Erie Docks	Imports	Exports	Consumption	Manganiferous Shipments[5]
1967	84.2	64.2	4.2	1.9	13.1	82.4	817.5	9.92	13.0	55.1	3.0	44.6	5.9	127.4	.3
1968	85.9	66.2	4.0	1.5	13.4	81.9	836.4	10.21	16.0	53.2	2.8	43.9	5.9	131.8	.2
1969	88.3	68.7	3.8	1.4	13.6	89.9	929.3	10.34	13.6	50.9	2.6	40.7	5.2	140.2	.4
1970	89.8	69.6	3.5	1.5	14.3	87.2	941.7	10.80	15.3	52.8	3.4	44.9	5.5	131.6	.3
1971	80.8	64.0	3.2	.5	12.3	77.1	891.0	11.55	17.7	57.7	3.4	40.1	3.1	116.2	.2
1972	75.4	62.0	2.5	.4	10.2	77.9	950.4	12.20	14.7	50.1	2.6	35.8	2.1	126.9	.1
1973	87.7	72.4	2.6	.3	12.0	90.7	1,163.7	12.84	10.9	46.0	3.1	43.3	2.7	146.9	.2
1974	84.4	70.7	2.4	.3	10.5	85.0	1,388.4	16.34	9.4	45.2	3.3	48.0	2.3	138.2	.2
1975	78.9	66.7	1.9	.1	9.6	75.7	1,620.6	21.41	12.3	52.2	4.6	46.7	2.5	114.1	.1
1976	80.0	67.4	2.0	.1	9.7	77.1	1,871.1	24.28	14.0	56.2	4.8	44.4	2.9	125.4	.2
1977[1]	55.8	44.1	1.2	.1	9.3	54.1	1,422.7	26.32	14.8	42.3	3.0	37.9	2.1	116.0	.2
1978[1]	81.6	72.7	8.9			83.2	2,401.4	28.86	12.5	39.3	3.6	29.9	3.8	125.0	.3
1979[1]	85.2	76.9	8.2			85.7			11.4	39.0	5.4	32.7	4.5	127.0	
1980															

[1] Preliminary. [2] Usable; less than 5% Mn. [3] Includes by-product ore. [4] Excludes by-product ore. [5] Iron ore; 5 to 35% Mn.
Source: Bureau of Mines

U.S. Imports (for Consumption) of Iron Ore from Principal Countries
In Thousands of Long Tons (2240 Pounds)

Year	India	Venezuela	Australia	Brazil	Canada	Chile	South Africa	U.S.S.R.	Liberia	Sweden	Peru	Norway	Total
1967	—	12,820		1,640	24,214	1,365	—	—	3,099	148	879	436	44,627
1968	—	10,313	131	1,257	26,339	1,441	—	—	2,942	232	925	360	43,941
1969	—	13,751	315	1,233	18,978	1,783	—	—	3,144	155	1,033	269	40,732
1970	—	13,026	638	1,991	23,919	1,581	—	—	1,873	172	1,329	49	44,876
1971	—	12,953	1,008	1,772	20,342	878	—	—	1,838	178	1,063	—	40,124
1972	—	10,926	687	1,114	18,168	308	—	—	2,761	273	1,318	—	35,761
1973	—	13,148	464	3,183	21,628	205	—	—	2,734	273	1,501	—	43,296
1974	—	15,378	638	6,572	19,702	296	1	126	2,730	335	1,810	—	48,029
1975	164	13,137	803	7,526	19,111	931	128	265	2,496	182	1,551	53	46,743
1976	130	9,001	617	5,388	24,962	608	162	44	2,153	441	716	151	44,390
1977[1]	—	6,179	305	2,243	25,283	566	250	86	1,791	154	1,021	—	37,905
1978[2]	—	6,083	264	3,979	19,236	390	94	—	2,170	256	818	302	33,616
1979[2]	—	4,564	183	3,095	22,602	245	106	—	2,190	171	456	44	33,711

[1] Preliminary. [2] Estimate. *Source: Department of Commerce*

Total[1] Iron Ore Stocks at End of Month in the U.S. In Millions of Long Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	65.6	62.3	58.6	56.6	58.7	63.5	67.6	71.8	74.1	75.3	73.8	71.3
1968	66.7	62.4	57.5	54.5	56.3	58.9	61.2	65.6	71.3	74.5	73.3	71.6
1969	68.4	64.2	60.5	57.1	58.1	58.0	60.8	62.8	65.8	68.5	68.1	67.4
1970	63.1	59.8	56.6	54.9	57.6	61.1	64.5	67.5	70.3	71.7	71.0	70.5
1971	66.7	64.1	59.8	57.7	59.0	62.8	67.2	71.7	76.2	78.0	79.1	78.7
1972	75.8	72.7	68.7	64.9	65.1	66.3	66.7	67.7	69.7	70.2	69.1	67.0
1973	63.2	59.6	55.3	52.4	53.5	55.3	57.0	58.5	60.3	61.6	60.7	59.5
1974	54.9	50.9	47.2	44.2	46.4	47.5	50.0	51.5	53.6	55.7	56.6	57.7
1975	56.6	54.9	52.9	52.3	55.8	57.6	61.2	63.9	66.1	66.6	67.3	68.1
1976[2]	66.9	65.4	63.1	61.4	62.6	64.1	65.3	66.6	69.3	71.4	73.2	75.0
1977[2]	73.5	72.2	70.1	68.5	67.7	68.5	69.7	67.2	65.9	63.5	60.7	59.4
1978[2]	56.3	54.1	53.1	50.4	49.9	51.9	51.6	53.8	54.7	55.5	56.4	55.3
1979[2]	53.0	50.7	47.8	46.7	46.6	48.0	51.0	51.5	52.0	54.2	55.2	55.8
1980												

[1] All stocks at mines, furnace yards and at U.S. docks. [2] Preliminary. *Source: American Iron Ore Association*

Lard

U.S. production of lard in the 1979/80 marketing season ending September 30, 1980, was estimated by the USDA at about 1.3 billion pounds, up about 10 percent from the previous season's output. Hog slaughter was expected to be sharply above year-earlier levels, while lard yield per hog was expected to continue near the 1978/79 rate of 13 pounds.

Domestic disappearance of lard in 1979/80 was expected to total about 1.1 billion pounds, compared with 935 million in the previous season. Increased usage of lard for direct use as well as in shortening and margarine manufacture was expected because lard prices were competitive with other major fats and oils. Exports were expected to increase slightly from the 140 million pounds shipped in 1978/79. The major overseas markets for U.S. lard is the United Kingdom, with shipments to South America also important.

The Foreign Agricultural Service of the USDA, in March 1980, estimated 1979/80 world production of lard at close to 3.8 million tonnes, up from an estimated 3.7 million in 1978/79. The USDA estimated total world production of fats and oils in 1979/80 would be about 8 percent above estimated 1978/79 production.

U.S. lard prices (tanks, loose, Chicago) averaged 25.3 cents per pound in the 1978/79 season, but were expected to average slightly lower in 1979/80, because of increased lard production, coupled with larger supplies of edible vegetable oils.

Supply and Distribution of Lard in the United States In Millions of Pounds

	Supply							Distribution							
	Production									Domestic Disappearance					
	Commercial											Direct Use as Lard			
Year	Federally Inspected	Other	Total	Farm	Total Production	Stocks Jan. 1[2]	Total Supply	Exports[3]	Shipments to U.S. Territories	Total	Shortening	Margarine	Civilian	Military	Civilian Per Capita Lbs.
1967	1,835	209	2,044	32	2,076	100	2,176	189	58	1,778	576	125	1,055	1	5.4
1968	1,862	170	2,032	30	2,062	151	2,213	175	58	1,886	601	153	1,106	1	5.6
1969	1,755	124	1,879	25	1,904	94	1,998	262	67	1,599	475	86	1,011	1	5.1
1970	1,776	112	1,888	25	1,913	70	1,983	366	53	1,482	430	90	939	1	4.7
1971	1,830	106	1,936	24	1,960	82	2,042	282	62	1,598	520	159	880	1	4.3
1972	1,464	76	1,541	18	1,550	100	1,658	164	25	1,418	441	128	787	1	3.8
1973	1,181	55	1,235	18	1,254	61	1,305	113	8	1,140	341	72	705	1	3.4
1974	1,286	58	1,344	22	1,366	44	1,410	161	21	1,192	317	160	681	1	3.2
1975	956	39	995	17	1,012	36	1,048	88	56	876	165	45	615	1	3.0
1976	1,010	33	1,043	17	1,060	28	1,088	181	54	819	156	37	568	1	2.7
1977	1,022	[5]	1,022	16	1,038	34	1,072	182	47	814	185	73	495	1	2.3
1978[1]	991	[5]	991	15	1,006	29	1,035	120	37	840	209	68	482	1	2.2
1979[4]					1,129	38	1,167			900					
1980[4]						50									

[1] Preliminary. [2] Factory & warehouse. [3] Includes military shipments for civilian relief abroad. Also non-food products; the bulk goes into shortening. [4] Estimate. [5] Included in FARM. *Source: Economic Research Service, U.S.D.A.*

Domestic Disappearance of Lard in the United States In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1971	152.1	102.6	157.5	132.3	104.3	130.9	135.9	141.5	140.7	117.6	123.3	135.2	1,574
1972	134.0	100.4	138.3	113.3	119.8	125.2	113.2	132.2	106.7	116.0	90.7	110.8	1,400
1973	96.4	98.3	100.9	89.4	111.7	101.8	88.5	80.4	83.7	90.3	94.3	86.2	1,122
1974	89.9	84.5	87.4	100.7	107.6	89.4	81.8	115.0	97.8	124.1	102.9	89.2	1,170
1975	98.9	61.3	90.4	81.0	78.6	59.1	65.5	65.7	55.3	68.5	69.1	65.5	859
1976[1]	67.6	47.4	86.2	53.0	67.7	53.6	67.8	74.6	65.0	79.3	76.1	64.8	803
1977[1]	—	—	—	—	—	—	64.3	81.8	72.0	65.1	83.7	68.8	
1978[1]	75.2	64.6	70.9	70.2	72.8	67.2	67.7	71.2	67.3	77.5	75.1	64.4	849
1979[1]	70.1	62.1	76.0	78.8	84.3	88.3	78.9	97.6	88.6	103.2	94.7	86.0	1,009
1980[1]	90.4	82.0											

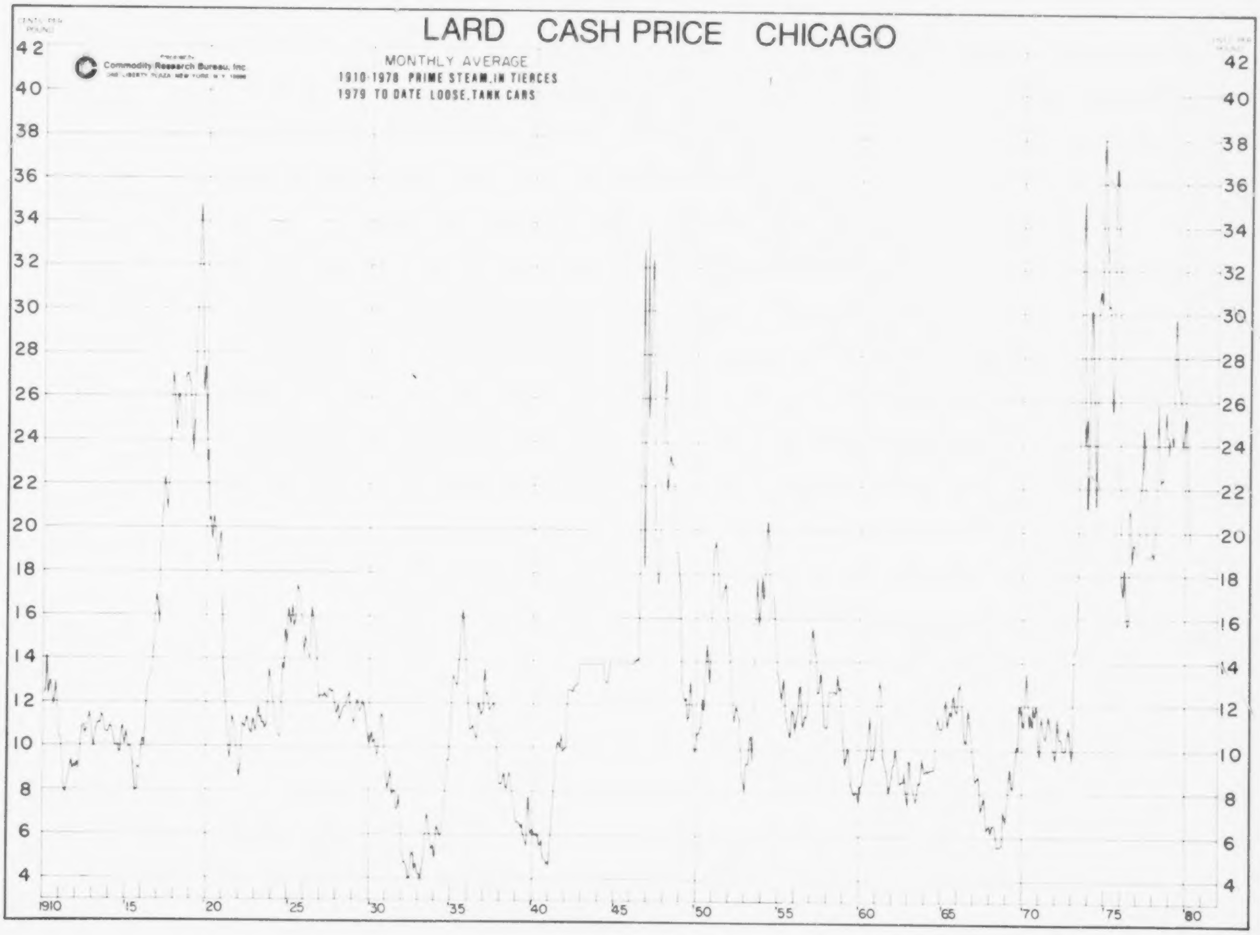
[1] Preliminary. *Source: Economic Research Service, U.S.D.A.*

LARD

United Statеs Cold Storage Holdings of all Lard[1], on First of Month In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	100.3	116.2	125.0	132.0	142.4	128.1	128.1	118.5	105.8	106.7	105.3	120.4
1968	151.4	170.2	123.9	121.3	132.0	138.8	129.7	121.1	105.2	94.1	89.1	78.2
1969	94.0	91.7	96.7	92.3	93.2	80.3	75.5	62.1	55.0	55.8	58.3	47.7
1970	70.1	64.8	61.6	67.1	75.2	65.3	64.9	66.5	54.2	59.8	59.0	74.0
1971	82.5	90.7	85.6	80.9	79.8	90.9	101.1	89.1	81.6	76.9	82.7	82.4
1972	99.9	77.9	65.8	68.5	82.9	89.8	83.4	64.3	53.7	43.8	44.1	57.6
1973	51.2	52.1	44.5	45.3	49.1	49.9	39.9	33.8	32.2	28.4	35.1	37.3
1974	43.7	56.3	45.4	53.3	55.7	55.2	50.0	54.5	50.7	47.7	37.7	33.2
1975	35.7	34.0	34.4	26.4	31.3	31.9	23.6	21.6	19.2	22.6	18.7	25.0
1976	28.3	33.5	36.1	29.3	31.9	32.0	32.2	26.9	28.4	33.6	37.5	37.4
1977	33.9	31.5	37.8	38.4	50.2	50.0	47.2	47.4	38.2	31.7	32.1	32.1
1978	28.1	30.0	29.7	33.9	35.7	35.4	36.8	32.4	29.7	35.0	29.5	32.0
1979	38.1	43.1	39.6	35.8	42.8	47.9	46.0	51.4	46.4	43.9	44.7	52.0
1980	49.9	35.4	42.2	45.2								

[1] Stocks in factories & warehouses (except that in hands of retailers). *Source: Bureau of the Census*



Lard Exports[2] of the United States by Selected Country of Destination In Thousands of Metric Tons[3]

Year	Asia	Belgium & Lux.	Canada	Belize	Neth. Antilles	Colombia	W. Germany	Haiti	Mexico	Ecuador	Netherlands	Poland	United Kingdom	Yugoslavia	Grand Total
1969	—	—	19.9	—	—	—	.9	3.4	35.2	—	—	—	186.5	—	261.9
1970	—	—	16.1	—	—	—	.8	1.2	44.5	—	—	—	2[illegible]9.3	14.3	365.9
1971	—	—	9.2	—	—	—	1.0	1.4	26.0	—	—	—	229.7	5.3	282.3
1972	—	—	11.8	—	—	—	1.2	3.2	26.3	—	—	—	116.1	—	164.4
1973	—	—	6.5	2.9	.5	.1	1.1	2.4	41.5	—	—	—	58.0	—	113.3
1974	—	2.0	20.1	1.9	.3	4.8	—	2.4	51.4	—	—	—	75.6	—	161.4
1975[3]	—	—	9.3	.9	.1	.1	—	.3	24.4	—	—	—	4.6	—	39.8
1976	4.3	4.1	17.0	1.4	.1	16.0	—	1.3	29.1	4.3	8.4	—	29.7	—	117.3
1977	1.7	11.3	20.1	1.3	.2	20.9	—	1.2	31.1	25.4	12.2	—	21.7	—	152.4
1978[1]	3.2	1.4	19.5	1.4	.3	16.4	—	.9	26.8	15.5	4.9	—	7.2	—	100.6

[1] Preliminary. [2] Excludes exports for civilian relief & shipments by CARE. [3] Data prior to 1975 are in MILLIONS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*

U.S. Exports of Lard & Other Rendered Pork Fat[1] In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1968	7.1	30	13.3	16.1	8	11.8	10.4	15.9	16.3	14.4	19.5	12.0	175
1969	11.7	14.1	29.1	10.7	39.5	15.4	11.1	23.5	21.7	30.0	41.6	13.2	262
1970	24.5	38.1	37.3	12.9	29.9	18.8	38.0	37.2	27.9	37.3	22.4	41.8	366
1971	8.9	40.5	44.4	39.3	30.9	18.1	10.6	15.8	19.6	12.2	38.2	3.9	282
1972	18.6	18.0	14.7	8.5	11.6	12.6	12.7	5.4	14.5	11.8	31.7	4.4	164
1973	18.5	4.9	7.2	10.7	5.3	17.2	4.1	7.1	3.4	13.5	15.5	5.8	113
1974	9.4	13.8	11.3	8.4	21.4	28.5	17.5	5.5	10.5	13.5	9.5	12.1	161
1975	5.4	11.6	7.0	9.4	5.6	8.8	4.3	3.3	7.2	8.4	7.2	9.4	88
1976	14.0	11.8	10.3	15.8	11.7	15.2	11.1	10.5	9.1	15.8	26.7	29.0	181
1977	—	—	20.9	18.4	10.8	15.3	8.6	13.4	23.4	27.5	18.2	20.2	182
1978	6.7	11.1	8.3	8.6	12.9	16.7	10.1	12.9	10.3	16.7	16.3	9.7	140
1979	7.5	12.0	12.0	6.8	12.8	8.3	8.1	7.1	5.9	13.0	10.5	11.0	115
1980	9.1	6.1											

[1] Except grease. *Source: U.S. Department of Commerce*

United States Production of Lard[1] (Commercial Production[2]) In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1968	157.0	135.8	147.6	163.9	172.5	139.6	140.3	146.5	153.7	182.0	163.6	160.0	1,862
1969	160.0	137.6	149.1	152.5	141.7	134.8	140.9	130.9	154.1	166.8	141.6	144.7	1,755
1970	144.1	120.7	139.4	153.0	130.0	136.5	131.5	135.4	157.6	175.5	174.2	178.1	1,776
1971	166.1	129.2	193.4	162.4	146.0	157.8	133.7	141.9	148.1	139.6	158.9	152.7	1,830
1972	123.2	105.0	148.9	131.5	138.7	130.8	101.6	120.8	108.0	122.7	130.3	103.1	1,464
1973	110.6	91.8	108.7	95.4	122.5	105.3	82.8	81.9	80.1	106.1	108.1	94.9	1,181
1974[2]	89.9	84.5	87.4	100.7	107.6	89.4	81.8	115.0	97.8	124.1	102.9	89.2	1,170
1975	103.0	87.0	94.0	96.0	86.0	74.0	68.0	67.0	75.0	78.0	83.0	84.0	995
1976	87.0	67.0	90.0	85.0	80.0	76.0	74.0	87.0	91.0	103.0	108.0	95.0	1,043
1977	73.0	65.0	100.0	85.0	85.0	85.0	73.0	86.0	89.0	93.0	102.0	85.0	1,021
1978	83.0	75.0	83.0	80.0	85.0	85.0	73.0	81.0	82.0	89.0	95.0	91.0	1,002
1979	83.0	69.0	84.0	92.0	102.0	94.0	92.0	99.0	93.0	117.0	112.0	92.0	1,129
1980	104.0	95.0											

[1] Includes "Rendered Pork Fat." [2] Data prior to 1974 are for FEDERAL INSPECTED ONLY.
Source: Department of Agriculture

Average Wholesale Price of Lard—Loose, Tank Cars, Chicago In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1975	37.0	30.0	28.0	28.5	28.5	24.0	38.0	36.0	37.5	35.0	30.0	18.5	30.9
1976	17.0	17.4	17.0	15.8	15.6	16.0	19.0	19.3	21.0	17.8	19.0	19.1	17.8
1977	20.5	22.4	21.5	25.0	26.0	23.1	20.5	19.0	17.9	21.5	19.0	19.3	21.3
1978	19.4	20.8	23.8	25.6	22.0	22.5	23.3	22.3	26.0	24.5	24.5	23.[illegible]	23.2
1979	24.5	24.0	25.1	29.8	26.8	—	—	—	26.6	25.1	23.8	25.1	25.6
1980	22.0	21.6	19.3										

Source: Economic Research Service, U.S.D.A.

Lead *(See special article on page 7)*

Mines in the United States produced 510,000 tonnes (metric tons) of lead in 1979, about 4 percent less than in 1978, and primary refineries produced 570,000 tonnes of metal in 1979, slightly more than the 568,000 produced in 1978. Secondary metal production from recycled materials was greater than primary production, providing 760,000 tonnes of lead, which was about 60 percent of apparent consumption. Imports for consumption of lead in concentrates and bullion decreased 24 percent to 50,000 tonnes, and imports of metal decreased 11 percent to 200,000 tonnes. Stocks were down slightly as production and demand remained in close balance through the year.

Mine production was lower than in 1978 due to the mid-year strike at the Ozark Lead Co. The value of mine production was $594 million, a 51 percent increase over that of 1978 due to the higher unit price. Mines in two States accounted for 98 percent of the total production. Missouri supplied 89 percent and Idaho, 9 percent.

Imports of both concentrate and metal were lower than in 1978. Exports of lead concentrate have become significant, with the U.S.S.R. and Brazil as two of the major customers.

Apparent consumption in 1979 was about 1.3 million tonnes, a decrease of 7 percent from the 1978 total. Transportation was the major end use of lead, 61 percent as batteries, and 12 percent as gasoline additives; followed by paints, 6 percent; ammunition, 4 percent; construction, 3 percent; electrical, 2 percent; and other, 12 percent.

After a steady rise which began at 40 cents per pound in January 1979, the U.S. producer price of lead was quoted as 57–59 cents per pound in December, with an average of 52.8 cents in 1979 compared with 34 cents in 1978. The price on the London Metal Exchange (LME) remained at a premium for most of the year, averaging 54.7 cents per pound. LME prices were bolstered by a worldwide shortage of lead concentrates and reportedly continued buying by Socialist countries.

World Smelter Production of Lead In Thousands of Short Tons

Year	Australia[3]	Belgium[4]	Bulgaria	Canada[3]	China[2]	France	W. Germany	Japan	Mexico[3]	Peru[3]	Spain	United States[3]	U.S.S.R.	Yugoslavia[3]	World Total
1967	327.1	107.7	106.5	190.3	99.0	125.7	150.3	165.3	178.0	90.2	57.9	379.9	529.0	112.3	3,182
1968	326.3	105.1	102.2	202.1	110.0	110.2	132.3	181.4	189.9	95.2	70.7	467.3	460.0	116.8	3,247
1969	378.2	107.1	104.8	187.1	110.0	119.0	138.7	205.7	186.3	85.5	86.4	638.7	485.0	117.9	3,553
1970	388.6	98.5	108.7	204.6	110.0	132.2	124.3	230.4	165.6	79.3	83.3	666.7	485.0	107.4	3,628
1971	356.7	87.4	112.7	185.6	110.0	117.2	108.5	237.1	167.0	74.0	112.5	650.0	500.0	109.3	3,591
1972	383.7	102.3	112.4	206.0	110.0	150.1	112.4	246.1	171.8	94.3	111.1	688.6	510.0	96.4	3,745
1973	374.8	125.3	118.0	206.0	110.0	183.6	94.6	251.4	190.6	91.8	96.3	674.5	520.0	124.2	3,838
1974	371.4	109.8	124.0	139.4	110.0	174.8	128.0	251.3	220.7	88.8	87.7	673.0	525.0	125.5	3,829
1975	343.2	113.5	121.0	189.1	110.0	149.2	101.7	214.1	190.6	78.4	81.5	636.1	530.0	139.0	3,633
1976	378.1	115.1	124.0	193.7	110.0	175.8	111.3	241.5	209.1	78.4	83.2	652.9	550.0	122.6	3,811
1977[1]	369.2	114.8	124.0	206.6	110.0	190.4	115.9	244.0	169.7	87.5	98.3	604.8	560.0	143.2	3,847
1978[2]	320			230					200	85		620		120	4,100
1979[2]	325			250					200	85		600		125	4,000
1980															

[1] Preliminary. [2] Estimated. [3] Refined & bullion. [4] Includes scrap. *Source: Bureau of Mines*

U.S. Mine Production of Recoverable Lead In Thousands of Short Tons

Year	Arizona	California	Colorado	Idaho	Illinois	New York	Missouri	Montana	Nevada	New Mexico	Oklahoma	Utah	Virginia	Washington	Wisconsin	Total U.S.[2]
1967	4.8	1.7	21.9	61.4	2.4	1.7	152.6	.9	1.5	1.8	2.7	53.8	3.4	2.8	1.6	316.9
1968	1.7	4.0	19.8	54.8	1.5	1.4	212.6	1.9	.9	1.4	2.4	45.2	3.6	5.7	1.1	359.2
1969	.2	2.5	21.8	65.6	.8	1.7	355.5	1.8	1.4	2.4	.6	41.3	3.4	8.6	1.1	509.0
1970	.3	1.8	21.9	61.2	1.5	1.3	421.8	1.0	.4	3.6	.8	45.4	3.4	6.8	.8	571.8
1971	.9	2.3	25.7	66.6	1.2	.9	429.6	.6	.1	3.0	—	38.3	3.4	5.2	.8	578.6
1972	1.8	1.2	31.3	61.4	1.3	1.1	489.4	.3	—	3.6	—	20.7	3.4	2.6	.8	618.9
1973	.8	—	27.8	61.4	.5	2.6	484.9	.2	—	2.6	—	13.9	2.6	2.2	.8	603.0
1974	1.1	—	24.6	51.7	.5	3.1	562.1	.2	1.8	2.4	N.A.	10.5	3.1	1.3	1.3	663.9
1975	.4	.1	27.1	50.4	N.A.	3.0	516.0	.2	3.0	1.9	—	12.7	2.6	N.A.	N.A.	621.5
1976	.3	.1	26.7	53.6	N.A.	3.2	501.0	.1	.6	N.A.	N.A.	16.3	1.9	N.A.	N.A.	609.5
1977[1]	.3	—	23.0	47.3	N.A.	2.8	500.3	.1	.7	N.A.	—	10.7	2.2	1.2	N.A.	592.5
1978[1]	.4	—	15.2	44.8		1.0	461.8	.1	.7		—	2.5	1.8			529.7
1979[1]	.4		7.8	41.9			466.7	.3	—							519.9
1980																

[1] Preliminary. [2] Includes Alaska. *Source: Bureau of Mines*

Salient Statistics of Lead in the United States In Thousands of Short Tons

Year	Production of Refined Lead From					Total Value of Refined Mil. $	Secondary Lead Recovered				Total Value of Secondary Mil. $	Dec. 31 Stocks		Avg. Price	
	Domestic Ores[2]	Foreign Ores[2]	Total Primary	Secondary Sources	Total		As Refined Metal	In Antimonial Lead	In Other Alloys	Total		Producers' Stocks[3]	Consumers' Stocks	New York	London
1967	258.5	121.4	379.9	2.5	382.4	106.4	150.3	288.7	114.7	553.8	155.1	125.5	105.8	14.00	10.28
1968	349.0	118.3	467.3	2.3	469.6	123.5	138.9	308.6	103.5	550.9	145.5	90.4	78.9	13.21	10.88
1969	513.9	124.7	638.7	5.0	643.6	190.7	154.3	342.5	107.1	603.9	180.3	101.9	126.4	14.93	13.09
1970	528.1	138.6	666.7	4.4	671.1	209.2	159.2	348.4	89.9	597.4	187.5	193.0	133.5	15.69	13.76
1971	573.0	77.0	650.0	1.2	651.2	180.6	150.1	342.7	104.0	596.8	165.8	121.7	125.6	13.89	11.52
1972	577.4	103.0	680.4	1.2	681.6	204.5	173.4	345.9	97.4	616.6	185.3	145.6	118.5	15.03	13.68
1973	567.3	107.3	674.5	—	674.5	219.8	186.1	375.8	92.4	654.3	213.2	89.8	124.1	16.29	19.47
1974	580.1	92.9	673.0	—	673.0	303.3	238.2	371.5	89.0	698.7	314.8	121.1	166.6	22.53	26.83
1975	530.2	105.9	636.1	—	636.1	273.9	271.3	315.1	72.0	658.5	283.5	156.5	133.3	21.53	18.73
1976	568.5	84.3	652.9	—	652.9	301.6	311.0	342.0	73.6	726.6	335.7	121.7	129.6	23.10	20.46
1977[1]	536.4	68.4	604.8	.1	604.9	371.4	334.2	422.6	78.3	835.1	512.8	100.4	133.8	30.70	28.00
1978[4]					624.4					751.7		——130.2——		33.65	29.86
1979[4]														52.64	54.52

[1] Preliminary. [2] And base bullion. [3] At primary smelters & refineries. [4] Estimates. *Source: Bureau of Mines*

Consumption of Lead in the United States by Products In Thousands of Metric[5] Tons

Year	Ammunition	Bearing Metal	Building[2]	Cable Covering	Calking Lead	Casting Metals	Collapsible Tubes	Foil	Red Lead & Litharge	Solder	Storage Batteries & Oxides[4]	Gasoline Antiknock Additives	Type-Metal	White Lead	Total Consumption
1967	78.8	19.6	46.9	63.0	48.8	10.1	11.3	6.1	76.6	68.8	466.7	247.2	28.6	8.1	1,260.5
1968	82.2	18.4	49.4	53.5	49.7	8.7	9.3	6.1	86.5	74.1	513.7	261.9	28.0	5.9	1,328.8
1969	79.2	17.4	45.2	54.2	44.9	9.9	12.5	5.9	79.9	72.6	583.5	271.1	25.7	6.6	1,389.4
1970	72.7	16.3	39.0	50.8	34.6	7.5	10.9	5.5	77.2	69.7	593.5	278.5	24.5	5.9	1,360.6
1971	87.6	16.3	45.8	52.9	30.0	7.3	10.0	4.4	61.8	70.0	679.8	264.2	20.8	4.7	1,431.5
1972	84.7	15.9	41.4	45.9	22.5	7.1	4.0	4.6	69.8	71.3	726.6	278.3	19.9	2.8	1,485.3
1973	81.5	15.7	44.7	43.0	20.1	7.2	2.9	5.0	89.6	71.8	769.4	274.4	21.9	1.7	1,541.2
1974	87.1	14.6	37.7	43.4	19.7	7.5	2.5	4.4	96.2	66.3	851.9	250.5	20.5	2.0	1,599.4
1975	75.1	12.2	39.1	22.1	14.3	7.7	2.2	3.2	65.5	57.3	699.4	208.6	16.2	2.5	1,297.1
1976	73.5	13.1	38.2	15.9	12.5	6.7	2.3	5.1	85.4	63.3	822.4	239.8	15.0	3.0	1,490.1
1977[1]	68.4	12.0	28.4	15.1	9.6	6.0	2.1	3.6	78.1	64.3	945.9	232.9	12.6	6.6	1,582.3
1978[5]	55.8	9.5	23.1	13.9	9.9	3.6	————91.6————			68.4	879.3		10.8		1,432.7
1979[3]															1,350

[1] Preliminary. [2] Chiefly pipes, traps & bends & sheet lead. [3] Estimate. [4] Also grids, posts, etc. [5] Data prior to 1978 are in THOUSANDS OF SHORT TONS. *Source: Bureau of Mines*

U.S. Foreign Trade of Lead In Thousands of Short Tons

Year	Exports				Imports for Consumption					General Imports From:					
										Ore, Flue Dust & Matte			Pigs & Bars		
	Unwrought Lead[3]	Wrought Lead[3]	Scrap	Total	Ores, Flue Dust or Fume & Matte	Base Bullion	Pigs & Bars	Reclaimed Scrap, Etc.	Value Million $	Australia	Peru	Canada	Australia	Mexico	Yugoslavia
1967	—	6.5	.4	6.9	144.2	.7	363.6	—	128.8	25.6	36.7	33.5	53.2	57.3	30.5
1968	—	8.3	.9	9.2	96.9	.1	337.6	—	101.5	20.6	14.0	36.8	46.9	56.5	19.8
1969	—	5.0	2.3	7.3	115.3	2.0	278.9	—	97.6	20.3	22.6	48.6	60.8	57.5	27.9
1970	—	7.7	4.2	11.9	42.6	1.2	244.6	—	83.2	29.4	21.3	41.3	51.7	38.4	18.8
1971	3.8	2.2	17.1	23.0	88.2	.1	192.6	—	68.4	8.9	18.4	21.9	46.0	29.6	8.7
1972	6.6	1.8	35.2	43.6	51.6	.9	245.6	—	76.2	20.7	27.8	30.3	35.6	35.5	1.7
1973	——66.6——		59.9	126.5	94.4	—	178.1	—	71.2	21.7	24.0	18.1	45.6	20.4	—
1974	53.6	8.4	59.4	121.3	62.7	.8	118.4	—	74.2	19.3	26.2	16.0	3.3	28.5	—
1975	18.4	2.9	50.0	71.2	45.0	.5	99.1	1.7	59.9	15.9	15.7	28.9	—	29.6	10.2
1976	2.9	3.0	46.9	52.8	89.0	2.3	142.0	2.6	92.2	11.2	9.3	27.7	6.1	44.3	19.9
1977[1]	4.7	5.2	85.4	95.3	97.9	8.1	253.6	3.9	196.9	18.3	7.3	17.7	21.9	79.1	7.6
1978[2]	——9.1——		108.7	117.8	68.3	4.7	248.5			7.2	7.0	21.6	18.0	88.4	—
1979															

[1] Preliminary. [2] Estimates. [3] And lead alloys. *Source: Bureau of Mines*

LEAD

Total[1] Lead Consumption in the United States In Thousands of Short Tons

Year	Jan.	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	107.4	99.8	112.9	107.0	110.8	106.0	84.2	104.4	102.6	111.9	108.0	105.6	1,261
1968	110.6	106.3	106.6	108.1	112.1	104.5	93.3	110.9	114.3	133.1	116.6	112.3	1,329
1969	118.1	105.6	117.5	115.9	117.3	115.8	100.9	112.2	123.9	131.9	112.5	117.7	1,389
1970	118.4	110.5	120.8	117.8	117.5	116.1	100.9	110.5	114.2	115.4	103.4	114.9	1,361
1971	118.7	113.2	126.6	120.7	120.1	116.5	95.8	123.2	130.6	127.8	121.1	117.3	1,432
1972	122.3	123.7	132.3	122.4	129.0	126.7	91.4	127.4	126.0	132.2	131.4	120.5	1,485
1973	135.3	131.7	143.2	128.4	128.8	129.1	101.9	125.7	124.8	140.7	131.4	120.2	1.541
1974	141.0	129.4	130.9	126.5	142.6	121.5	112.8	144.0	143.7	156.8	136.4	113.8	1,599
1975	100.6	95.5	95.5	100.7	97.2	90.7	86.2	108.6	114.7	123.6	108.9	108.5	1,297
1976	109.3	114.1	125.1	116.4	118.2	118.2	101.4	116.2	121.2	130.4	122.5	120.0	1,429
1977	123.4	114.5	134.4	126.9	121.8	126.2	105.0	124.0	133.5	132.7	120.0	121.8	1,582
1978	122.5	115.0	122.2	122.5	117.4	121.6	99.5	125.2	124.9	140.4	130.9	123.4	1.433
1979	114.6	111.0	124.3	109.5	116.7	108.5	91.3	106.0	109.3	112.1	106.3	94.0	1,304
1980													

[1] Represents total consumption of primary & secondary lead as metal, in chemicals, or in alloys. *Source: Bureau of Mines*

U.S. Mine Production of Recoverable Lead In Thousands of Short Tons

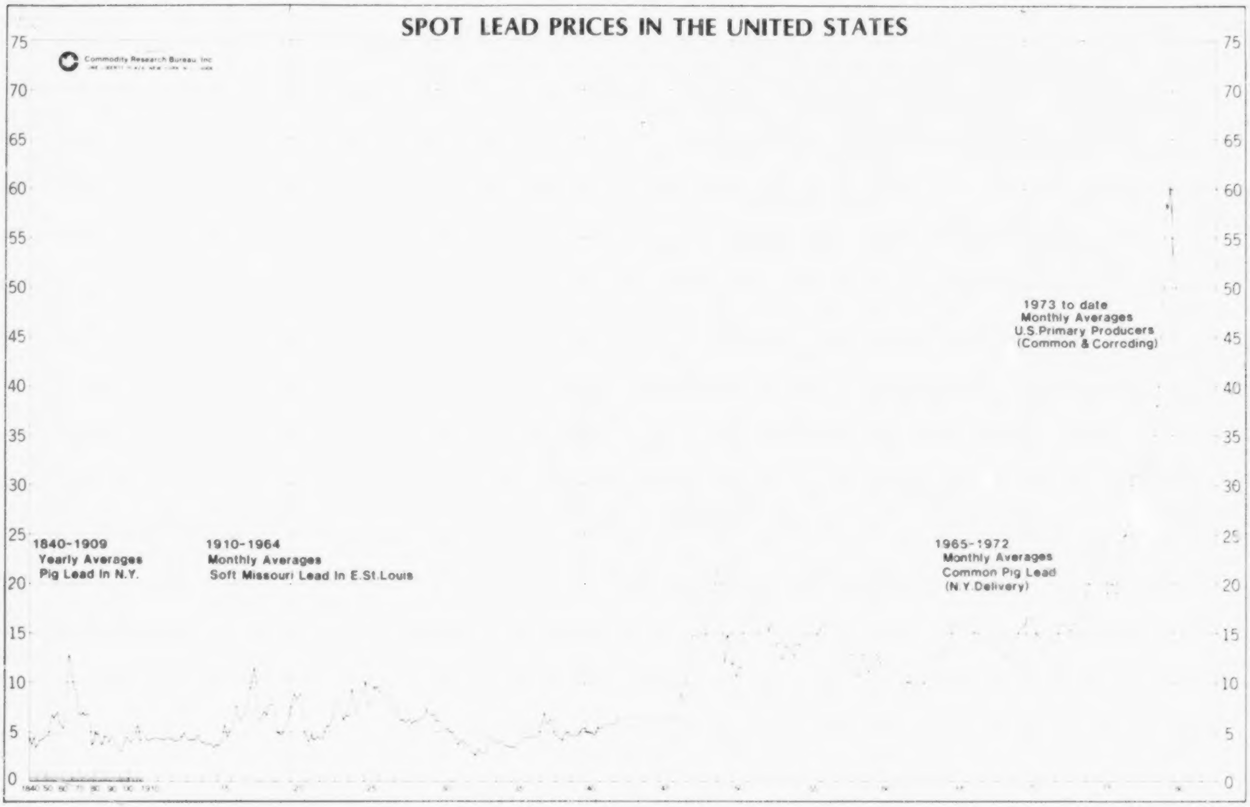
Year	Jan.	Feb.	Mar	Apr	May	June	July	Aug	Sept.	Oct.	Nov	Dec.	Total
1967	25.6	25.4	30.1	29.4	32.1	28.0	24.4	24.7	22.8	25.4	24.2	24.8	316.9
1968	24.5	24.3	24.1	27.4	31.1	29.0	30.9	33.2	31.1	36.6	33.2	33.9	359.2
1969	36.8	34.9	38.8	42.3	43.8	45.1	44.3	45.1	43.2	46.2	42.3	46.1	509.0
1970	47.2	46.3	51.8	49.1	49.6	46.8	45.8	47.4	47.9	46.2	47.8	45.8	571.8
1971	45.2	41.9	52.8	47.6	46.0	46.1	45.7	48.2	51.0	48.7	49.3	56.1	578.6
1972	48.8	53.3	55.6	52.2	54.1	51.2	52.6	56.9	50.7	51.6	46.5	45.4	618.9
1973	53.5	50.0	45.3	40.1	55.9	43.9	51.4	55.7	51.4	53.7	49.0	53.2	603.0
1974	57.1	52.8	58.0	52.3	53.3	54.9	54.8	58.7	50.0	64.9	53.2	53.9	663.9
1975	55.5	52.5	58.4	55.9	53.2	50.7	37.7	48.0	50.6	56.3	48.9	52.8	621.5
1976	50.4	52.0	57.8	50.6	51.0	50.6	48.1	51.0	48.8	49.0	49.7	51.2	609.5
1977[1]	45.0	49.1	56.8	53.2	48.4	50.5	39.0	52.1	46.2	49.1	49.0	51.1	589.2
1978[1]	49.8	45.0	57.1	49.4	54.3	40.1	35.5	47.6	49.5	55.5	50.0	49.1	582.9
1979[1]	47.6	44.0	42.5	37.0	41.8	42.0	41.4	48.8	34.6	50.0	46.5	43.9	520.1
1980[1]	51.7												

[1] Preliminary. *Source: Bureau of Mines*

U.S. Lead Recovered from Scrap (Lead Content) In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	46.7	45.8	50.4	53.1	46.8	50.3	45.4	48.4	48.2	53.5	48.6	52.3	597.4
1971	46.4	48.1	47.0	50.8	48.1	46.4	42.4	46.1	49.1	51.6	50.6	46.0	596.8
1972	45.3	41.8	54.2	51.9	55.0	50.4	48.9	49.6	51.4	49.5	51.6	45.4	616.6
1973	55.3	56.2	56.4	56.8	59.1	56.3	45.7	52.9	47.3	51.4	51.5	48.2	654.3
1974	50.3	54.8	54.9	50.9	53.7	46.4	47.0	49.2	54.3	58.4	56.4	56.8	698.7
1975	47.3	43.6	50.0	46.3	51.6	45.6	46.0	47.4	55.6	59.8	61.0	53.8	658.5
1976	52.0	55.1	64.6	57.0	53.5	57.8	49.8	57.4	56.1	58.4	64.9	57.3	682.5
1977[1]	54.3	58.3	68.2	61.4	61.1	64.9	54.0	62.6	65.7	62.6	60.3	61.2	734.4
1978[1]	54.7	56.4	63.7	57.8	64.3	62.1	54.1	62.6	68.5	71.2	70.1	67.6	753.0
1979[1]	54.6	60.5	65.1	64.1	62.0	65.2	51.3	58.1	58.2	65.0	60.7	54.3	719.0
1980													

[1] Preliminary. *Source: Bureau of Mines*



SPOT LEAD PRICES IN THE UNITED STATES

Average Price of Lead, U.S. Primary Producers[1] (Common & Corroding) In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
1968	14.00	14.00	14.00	14.00	13.04	13.00	12.70	12.50	12.50	12.81	13.00	13.00	13.21
1969	13.44	14.00	14.00	14.42	14.50	14.88	15.45	15.50	15.50	15.50	15.62	16.29	14.93
1970	16.50	16.50	16.50	16.50	16.50	16.50	15.68	15.12	14.75	14.75	14.75	14.19	15.69
1971	13.50	13.50	13.50	13.50	13.50	13.70	14.25	14.25	14.25	14.25	14.25	14.19	13.89
1972	14.15	14.63	15.50	15.63	15.75	15.75	15.75	15.71	15.50	15.21	15.25	15.25	15.34
1973	15.09	15.42	15.97	16.00	16.25	16.50	16.50	16.50	16.50	16.50	16.50[2]	17.96	16.31
1974	18.95	19.00	19.30	21.16	21.50	23.00	24.50	24.50	24.50	24.50	24.50	24.50	23.19
1975	24.50	24.50	24.50	24.50	23.21	19.00	19.00	19.52	20.00	20.00	20.00	19.48	21.52
1976	19.00	19.00	20.30	22.00	22.90	23.00	24.26	24.75	24.75	24.77	25.71	25.75	23.02
1977	26.99	28.95	31.00	31.00	31.00	31.00	31.00	31.00	31.00	31.02	32.00	32.86	30.74
1978	33.00	33.00	33.00	33.00	31.23	31.00	31.00	32.50	34.19	36.05	38.18	38.00	33.68
1979	40.64	43.74	46.09	48.00	49.44	57.14	58.68	57.96	58.47	60.74	58.30	57.11	53.03
1980	51.48	51.06	49.52	45.34									
1981													

[1] Prior to Nov. 1973 prices are for Common Pig (N.Y. Delivery--Carload Lots). *Source: American Metal Market*

LEAD

Production[1] of Lead in the United States by Refiners In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	36.5	41.7	42.1	40.5	44.4	41.8	25.8	23.5	22.2	21.3	26.4	28.4	394.6
1968	18.9	24.2	26.4	35.9	45.3	39.4	47.9	46.5	49.8	54.0	47.9	54.4	490.6
1969	53.5	48.4	57.9	54.5	59.9	54.9	50.1	51.1	52.0	61.7	62.9	60.6	667.6
1970	60.2	59.0	58.1	63.0	63.0	65.8	60.2	58.3	53.3	55.1	50.0	57.9	703.7
1971	51.3	46.7	53.5	53.8	56.5	58.0	57.9	50.5	53.8	66.6	58.0	65.0	671.6
1972	62.7	59.1	63.4	42.8	66.4	58.6	60.1	62.7	56.2	61.7	62.3	58.5	714.5
1973	63.9	65.5	65.9	56.8	65.3	67.9	52.4	70.8	64.9	65.5	64.3	59.2	762.3
1974	62.5	60.3	60.2	52.8	60.2	51.8	59.6	60.6	59.7	58.2	60.7	62.6	709.2
1975	65.0	55.0	60.4	49.5	51.5	45.0	46.4	52.3	52.5	57.9	53.2	52.6	641.4
1976	57.7	56.3	56.2	58.5	61.5	54.1	52.9	57.1	50.2	53.5	49.1	51.3	658.4
1977	51.2	46.6	57.7	50.2	51.2	46.9	41.5	46.9	50.2	56.5	58.0	55.2	612.0
1978	60.0	50.1	55.3	55.5	49.1	44.8	42.5	50.4	51.5	60.9	55.1	54.2	629.2
1979	53.0	52.2	60.6	52.5	58.1	55.0	52.6	49.9	45.4	52.9	54.6	54.3	641.1
1980	56.9	49.3											
1981													

[1] Represents refined lead produced from domestic ores by primary smelters plus small amount of secondary material passing through these smelters. Includes GSA metal purchased for remelt. *Source: American Bureau of Metal Statistics, Inc.*

Shipments[1] (Domestic) of Lead in the United States by Refiners In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	33.9	36.6	41.8	38.2	42.5	43.9	25.9	26.9	27.7	24.2	26.9	23.9	392.3
1968	25.2	27.4	27.0	33.6	42.6	36.5	39.1	46.2	55.6	58.0	52.8	54.7	498.7
1969	54.7	52.4	56.6	53.0	53.7	55.4	53.2	50.6	49.8	58.8	58.9	60.4	657.5
1970	52.7	54.5	53.1	49.7	55.4	55.3	43.8	48.9	48.2	50.1	47.2	48.2	607.1
1971	50.5	49.0	61.0	58.0	57.6	67.5	46.8	64.1	65.1	72.6	66.9	61.1	720.1
1972	56.4	66.3	73.2	50.4	59.9	54.7	46.5	51.5	55.6	69.2	62.6	58.0	704.2
1973	70.0	69.4	68.1	64.4	67.8	70.4	62.3	69.4	69.2	75.4	72.6	54.5	823.4
1974	72.6	64.6	63.9	57.2	60.8	56.9	65.8	60.9	61.4	63.5	58.9	49.7	736.2
1975	47.2	36.7	37.3	44.2	49.7	38.2	45.4	62.5	64.9	67.6	47.0	54.1	594.9
1976	49.2	54.2	58.8	63.6	62.0	54.8	59.3	66.1	55.8	62.7	57.2	51.2	694.9
1977	57.2	56.0	62.9	53.6	50.7	51.3	42.2	47.4	51.6	54.7	55.0	55.7	638.3
1978	59.9	49.7	51.3	43.5	49.0	44.1	44.3	56.3	56.1	62.8	54.5	53.1	624.5
1979	56.7	54.7	58.9	52.2	58.5	55.2	56.1	47.0	45.9	52.9	39.7	30.8	608.6
1980	40.5	37.6											
1981													

[1] Includes GSA metal. *Source: American Bureau of Metal Statistics, Inc.*

Total Stocks of Lead[1] in the United States at Refiners, at End of Month In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1966	26.8	26.3	23.7	21.8	24.5	26.3	26.2	23.5	22.5	22.3	25.7	23.9
1967	25.3	30.2	29.8	32.5	34.0	31.9	31.8	28.4	22.9	19.7	19.3	23.8
1968	17.4	14.2	13.4	15.7	18.4	21.3	30.1	31.0	25.1	21.2	15.7	15.4
1969	14.3	10.3	11.4	13.1	18.9	18.4	15.3	15.8	18.1	20.9	24.8	25.8
1970	30.8	33.5	36.9	47.3	53.5	63.3	79.1	87.4	86.6	90.9	93.6	98.3
1971	99.1	96.8	89.6	85.4	84.3	77.3	88.4	74.8	63.5	57.6	48.7	52.3
1972	58.3	50.4	38.0	29.1	36.3	40.6	55.6	67.7	69.3	64.0	64.4	67.3
1973	59.4	54.7	39.9	33.2	35.3	32.3	20.5	24.4	26.8	22.8	20.7	27.6
1974	40.8	35.5	35.2	28.1	21.3	19.2	18.9	21.2	21.7	20.8	25.2	38.1
1975	55.5	73.8	96.7	101.6	104.5	111.8	110.7	100.7	87.7	77.7	83.7	82.1
1976	91.5	92.8	90.6	87.8	85.3	84.6	76.7	67.7	61.7	54.3	45.6	46.0
1977	37.9	28.2	23.5	20.9	20.1	15.1	13.7	13.3	12.4	14.8	16.5	16.0
1978	16.3	16.6	20.8	32.6	32.3	33.0	31.0	24.9	20.1	18.1	18.7	19.8
1979	15.8	13.4	15.2	15.0	14.6	14.3	10.8	13.7	13.0	13.9	27.8	51.3
1980	67.8	75.0										

[1] Stocks at own plant & elsewhere. *Source: American Bureau of Metal Statistics, Inc.*

Lumber and Plywood

Preliminary Department of Commerce estimates placed 1979 total U.S. lumber production at 37.5 billion board feet, down about 1.2 percent from both 1977 and 1978 levels. Softwood lumber accounted for about 78 percent of total production, and hardwoods (primarily used for flooring, furniture and materials-handling applications) accounted for the rest. The continued strength of the housing industry, steady demand from other wood-consuming industries and a 20 percent increase in exports from year-earlier levels kept lumber production at higher-than-anticipated levels during the first half of 1979. But rising interest rates and deterioration in the housing construction industry depressed shipments later in 1979.

Total U.S. softwood production for 1979 was estimated at 19.7 billion square feet (⅜-inch thickness basis), up slightly from 19.5 billion in 1978, according to National Forest Products Association data. But NFPA data indicate shipments fell by 2.4 percent to 18.7 billion square feet from 19.2 billion in 1978. Preliminary Department of Commerce estimates for 1980 indicated shipments were expected to fall to 16.7 billion square feet, down 11 percent from 1979.

Housing starts for 1979 were estimated at 1,724,500 dwelling units, including almost 1.2 million single-family homes, sharply down from 2,023,200 dwelling units, including 1,433,300 single-family homes, in 1978. Based on a Commerce Department estimate of 1.4 million housing starts in 1980, lumber production was expected to decline about 7 percent to 35 billion board feet. However, rising costs of financing construction and sharply higher mortgage rates in early 1980 could result in even larger reductions in production and shipments.

Foreign Trade

U.S. lumber imports, virtually all softwoods from Canada, declined by more than 6 percent in 1979 to an estimated 11.2 billion board feet. The imports represented 24 percent of total lumber consumption of nearly 39 billion board feet.

U.S. producers, who normally do not sell heavily into the export market, used export sales to offset some declines in the domestic market. Since overseas buyers usually book up to a year ahead, manufacturers were able to lock in a substantial volume of second-half shipments early in 1979, even though sales did level off to 1.9 billion board feet for the year, up 12 percent from 1978 shipments.

The largest increase in exports was to Japan, which passed Canada to become the leading U.S. market as a favorable yen/dollar exchange rate was used to rebuild inventories. Though the U.S. is the second-largest lumber producer and fourth-largest exporter, U.S. exports generally represent less than 6 percent of total domestic production.

A trend toward increased plywood exports also continued in 1979, when U.S. shipments were estimated at 400 million square feet. In the 1970–1978 period, softwood plywood exports averaged 2.2 percent of domestic production, compared with 3 percent in 1979 and an estimated 5 percent in 1980.

Longer Term Outlook

The availability of timber from national forests always has been in contention among the U.S. Forest Service, the domestic forest products industry and environmentalists. National forests contain about one-half of the nation's softwood sawtimber inventory, mostly located in the Pacific Northwest. With the continuing shift of plywood capacity to the South, the amount of timber released from federal lands will be less of a factor than in the past. But this shift will place added pressure on holdings by private owners, which account for 72 percent of commercial forest lands in the South.

Growing timber is a high-risk investment over a long maturity period. Tax law changes and assistance from the government could encourage commercial activity among private landowners. The changes in the 1978 Revenue Act which reduced capital gains taxes on timber will encourage growers. But higher inheritance taxes on timberland would discourage private landowners from investing in timber management.

Salient Statistics of Lumber in the United States

	Industrial Roundwood Used for										National Forest Stumpage Prices				
Year	Lumber	Pulp Products	Plywood & Veneer	Other Pdts.[2]	Total[2]	Imports	Exports	Apparent Consumption	Fuelwood Consumption	Apparent Consumption, All PDT's	All Eastern Hardwoods	Douglas Fir	Southern Pine	Western Hemlock	Ponderosa Pine
	In Million Cubic Feet										$ Per 1,000 Board Ft.				
1967	5,360	3,190	1,030	515	10,410	2,160	955	11,615	775	12,395	27.00	41.70	38.30	21.80	22.20
1968	5,630	3,385	1,120	485	11,025	2,395	1,120	12,305	700	13,005	23.60	61.20	42.20	35.60	30.20
1969	5,535	3,585	1,050	455	11,000	2,515	1,140	12,370	620	12,990	30.20	82.20	51.70	45.10	71.00
1970	5,355	3,835	1,070	425	11,120	2,425	1,370	12,180	540	12,715	26.90	41.90	44.10	20.50	32.10
1971	5,495	3,560	1,235	415	11,060	2,675	1,160	12,575	500	13,075	24.60	49.10	52.20	20.60	37.60
1972	5,605	3,485	1,360	405	11,345	3,045	1,360	13,030	475	13,505	34.30	71.70	65.60	49.00	65.80
1973	5,730	3,690	1,310	405	11,645	3,105	1,475	13,280	505	13,785	44.70	138.10	93.40	99.20	92.30
1974	5,145	4,125	1,140	395	11,215	2,695	1,520	12,395	535	12,930	44.40	202.40	76.20	110.80	100.60
1975	4,850	3,380	1,150	385	10,180	2,145	1,390	10,395	570	11,505	34.00	169.50	57.00	68.80	71.20
1976	5,390	3,635	1,305	380	11,220	2,740	1,540	12,420	600	13,020	34.90	176.20	87.00	79.70	103.20
1977[1]	5,610	3,465	1,380	370	11,315	3,185	1,475	13,025	630	13,655	37.90	225.90	100.30	89.30	131.40
1978[1]											41.10	250.30	134.50	113.60	164.70

[1] Preliminary, subject to revision. [2] Excludes fuelwood. Includes cooperage logs, poles & piling, fence posts, etc.

Sources: National Lumber Manufacturers Ass'n.; U.S. Dept. of Commerce; Forest Service

LUMBER AND PLYWOOD

Lumber output is largely determined by the trend in housing construction, which was expected to recover in 1981 and again top 2 million dwelling units in 1984. Demand for remodeling, alterations and repairs also should continue on its recent upward trend. The growing demand for treated wood products should provide an additional outlet for softwood, since the use of a treated wood foundation requires an additional 2,500 board feet of lumber per house.

The plywood industry is fighting market inroads by substitutes such as wood-based panel products like waferboard and by composite panels and oriented-fiber particleboard. Nevertheless, the need to house the World War II baby boom generation's families now reaching home-buying age should push softwood plywood production to 20 billion square feet by 1984.

Futures Markets

Lumber futures are traded on the Chicago Mercantile Exchange. Plywood futures are traded on the Chicago Board of Trade.

United States Lumber Shipments In Millions of Board Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1968	2,703	2,999	3,233	3,440	3,458	3,183	3,204	3,337	3,231	3,525	3,095	2,789	36,871
1969	2,972	3,046	3,327	3,398	3,377	3,105	2,952	3,107	3,248	3,414	2,912	2,757	35,437
1970	2,651	2,670	3,015	3,128	2,942	3,042	2,930	3,044	3,059	3,140	2,694	2,632	33,542
1971	2,738	3,075	3,472	3,560	3,313	3,537	3,209	3,345	3,294	3,336	3,067	3,015	37,769
1972	2,942	3,186	3,566	3,422	3,628	3,429	3,236	3,468	3,387	3,520	3,203	2,776	39,180
1973	3,153	3,102	3,474	3,386	3,351	3,264	3,044	3,402	3,096	3,312	3,008	2,623	38,353
1974	2,647	2,850	3,219	3,377	3,310	2,949	2,736	2,888	2,584	2,658	2,265	1,978	33,909
1975	2,047	2,164	2,507	2,843	2,820	2,739	2,820	2,851	3,061	3,097	2,689	2,647	32,254
1976	2,762	2,790	3,107	3,155	2,944	3,150	3,122	3,234	3,167	3,167	2,911	2,951	37,030
1977[1]	2,683	2,873	3,362	3,364	3,314	3,387	3,077	3,358	3,296	3,269	2,859	2,983	37,520
1978[1]	2,699	2,741	3,158	3,133	3,355	3,548	3,156	3,357	3,250	3,262	3,116	2,907	37,712
1979[1]	2,813	2,756	3,279	3,107	3,329	3,087	3,128	3,408	3,106	3,224	2,777	2,589	36,550
1980													

[1] Preliminary. *Source: National Lumber Manufacturers' Association*

Stocks (Gross) of Lumber in the United States, Beginning of Month In Millions of Board Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1968	5,751	5,789	5,690	5,597	5,504	5,380	5,251	5,279	5,194	5,118	5,094	5,030
1969	5,004	5,006	4,998	5,014	5,079	5,000	5,011	5,138	5,202	5,210	5,255	5,269
1970	5,359	5,583	5,772	5,921	5,996	6,137	6,061	6,141	6,713	6,235	6,288	6,233
1971	6,365	6,428	6,277	6,143	6,042	5,895	5,741	5,723	5,594	5,532	5,397	5,358
1972	5,288	5,155	5,040	4,857	4,704	3,944	4,368	4,236	4,184	4,097	4,149	4,094
1973	4,152	3,954	3,926	3,802	3,896	3,835	3,765	3,758	3,813	3,967	4,108	4,157
1974	4,457	4,499	4,596	4,568	4,648	4,627	4,683	4,904	5,042	5,196	5,229	5,160
1975	5,134	5,137	5,123	5,064	5,000	5,052	5,124	5,101	5,165	5,090	5,140	4,982
1976	4,967	4,894	4,926	4,963	5,016	5,123	4,922	4,763	4,794	4,854	4,991	5,062
1977[1]	5,091	5,171	5,228	5,325	5,197	5,133	4,964	4,845	4,787	4,859	4,876	4,855
1978[1]	4,862	4,963	5,128	5,201	5,190	5,038	4,877	4,705	4,632	4,669	4,740	4,731
1979[1]	4,805	4,811	4,932	4,964	4,975	4,868	5,003	4,893	4,843	4,875	5,063	5,207
1980[1]	5,210											

[1] Preliminary. *Source: National Lumber Manufacturers' Association*

Average Price of Hardwood Lumber—Oak, Red, No. 1 Common In Dollars Per Thousand Board Feet

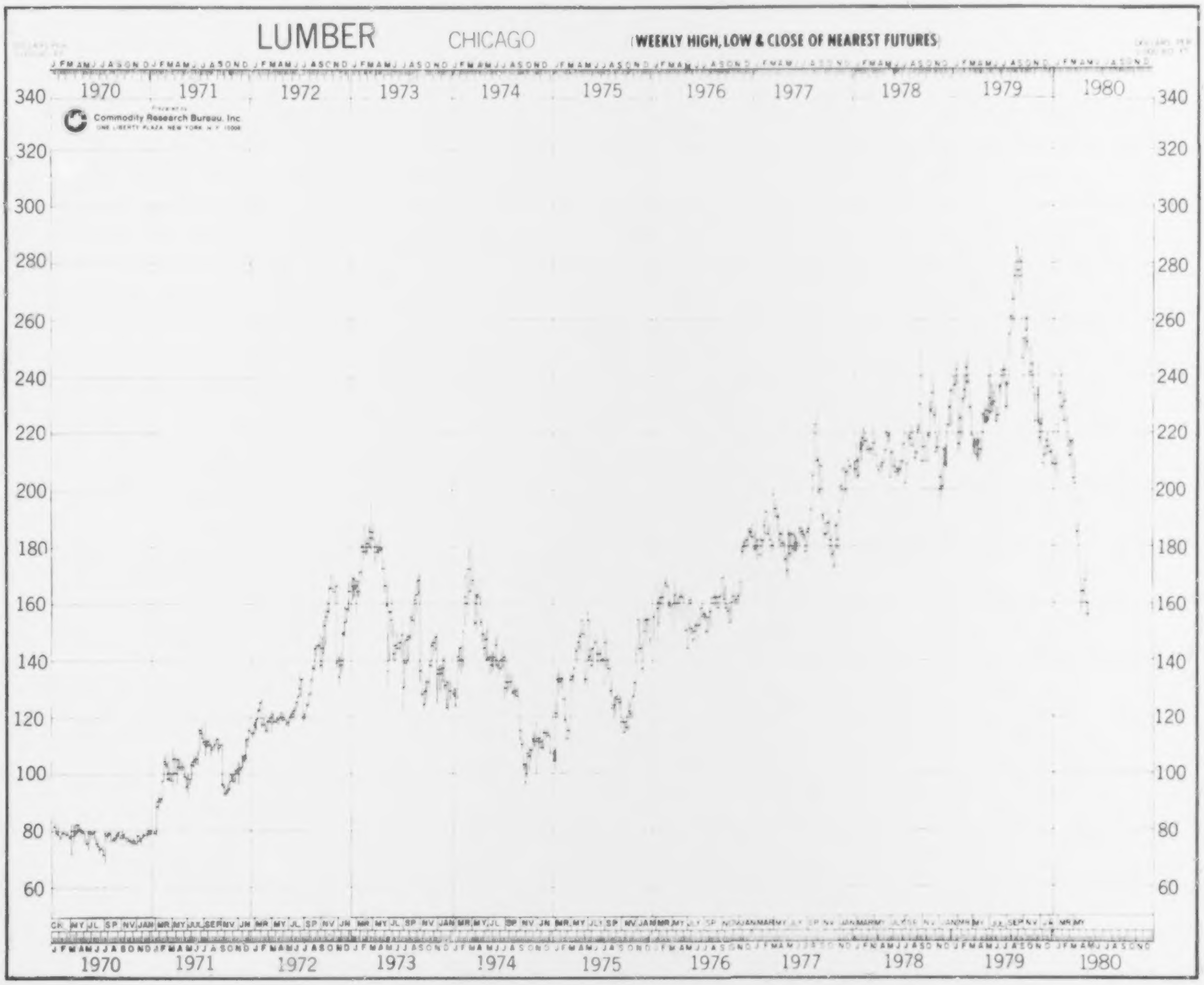
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	145.00	148.00	158.00	163.00	163.00	163.00	163.00	163.00	163.00	163.00	165.00	165.00	160.17
1970	168.00	163.00	160.00	153.00	150.00	140.00	138.00	132.00	127.00	127.00	127.00	127.00	142.67
1971	127.00	130.00	130.00	131.00	133.00	133.00	133.00	135.00	135.00	135.00	137.00	140.00	133.25
1972	143.00	146.00	146.00	150.00	158.00	165.00	170.00	170.00	170.00	170.00	170.00	170.00	160.67
1973	175.00	190.00	200.00	200.00	220.00	230.00	235.00	260.00	275.00	275.00	280.00	280.00	235.00
1974	280.00	280.00	280.00	280.00	280.00	280.00	275.00	270.00	260.00	250.00	240.00	235.00	267.50
1975	225.00	215.00	190.00	190.00	190.00	190.00	190.00	195.00	200.00	205.00	215.00	215.00	201.67
1976	215.00	215.00	215.00	215.00	215.00	215.00	275.00	275.00	275.00	275.00	275.00	275.00	245.00
1977	277.00	285.00	290.00	300.00	309.00	315.00	315.00	315.00	315.00	315.00	315.00	320.00	305.92
1978	322.00	350.00	360.00	365.00	380.00	390.00	390.00	390.00	390.00	400.00	405.00	405.00	378.92
1979	405.00	405.00	405.00	405.00	405.00	405.00	405.00	405.00	400.00	400.00	385.00	385.00	400.83
1980	375.00	375.00	370.00										

Source: Bureau of Labor Statistics (0812-0102)

Residential Construction Contracts Awarded (All Types) in U.S. In Millions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	937	1,056	1,584	1,627	2,002	2,000	1,829	1,912	1,741	1,887	1,717	1,404	21,155
1968[1]	1,462	1,495	2,220	2,312	2,543	2,243	2,287	2,295	2,125	2,408	2,043	1,743	24,838
1969	1,780	1,858	1,983	2,586	2,644	2,597	2,333	2,413	1,993	2,320	1,695	1,764	25,261
1970	1,490	1,523	2,039	2,504	2,153	2,270	2,377	2,379	2,198	2,319	1,961	2,062	24,837
1971	1,631	1,818	2,729	3,168	3,310	3,485	3,357	3,255	3,196	3,171	3,001	2,997	34,714
1972	2,667	2,664	3,617	3,971	4,428	4,375	3,864	4,671	4,135	4,298	3,663	3,120	44,975
1973	3,195	3,277	4,643	4,512	4,754	4,612	4,224	4,233	3,638	3,673	3,299	2,341	45,696
1974	2,231	2,678	3,374	3,924	3,862	3,546	3,350	3,060	2,503	2,457	1,931	1,715	34,404
1975	1,540	1,532	2,272	2,987	3,072	3,116	3,081	2,833	2,951	3,167	2,478	2,259	31,261
1976	2,157	2,546	3,618	4,003	3,955	4,166	4,149	4,099	3,758	4,064	3,716	3,236	43,651
1977[2]	2,927	3,427	5,149	5,266	5,660	5,945	5,548	6,148	5,518	5,452	5,281	4,305	62,017
1978[2]	3,884	3,862	6,139	6,854	7,652	7,722	6,710	6,910	6,317	6,821	5,973	4,781	74,949
1979[2]	4,468	4,588	6,870	5,969	8,076	7,277	7,008	7,069	6,248	6,864	4,717	4,304	74,686
1980[2]	4,100	4,337											

[1] From 1968 new series reflecting nationwide coverage & new techniques for compiling data; not entirely comparable with earlier data. [2] Preliminary. *Source: F. W. Dodge Co.*



LUMBER AND PLYWOOD

United States Imports of Saw Mill Products In Millions of Board Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	300	339	502	419	432	496	418	598	431	415	380	256	4,987
1968	407	418	407	476	439	517	610	560	526	685	519	524	6,087
1969	353	490	724	664	549	554	537	495	528	525	443	435	6,263
1970	515	423	488	535	572	562	478	540	553	533	514	422	6,095
1971	505	473	683	563	650	761	767	624	797	516	582	679	7,599
1972	757	703	768	745	889	761	888	690	820	815	886	689	9,428
1973	935	760	883	837	931	899	823	623	453	764	780	640	9,540
1974	634	547	700	721	815	765	653	541	569	530	414	361	7,249
1975	337	377	536	571	589	671	677	431	422	388	415	552	5,968
1976	477	527	627	701	669	573	890	680	781	715	759	779	8,178
1977	691	721	906	890	996	999	934	920	938	858	956	911	10,698
1978	865	840	939	915	1,173	1,117	1,194	1,119	1,014	1,091	979	954	12,199
1979	925	761	998	925	1,237	1,011	1,010	1,043	999	924	909	771	11,513
1980													

Source: Department of Commerce

United States Exports of Saw Mill Products In Millions of Board Feet

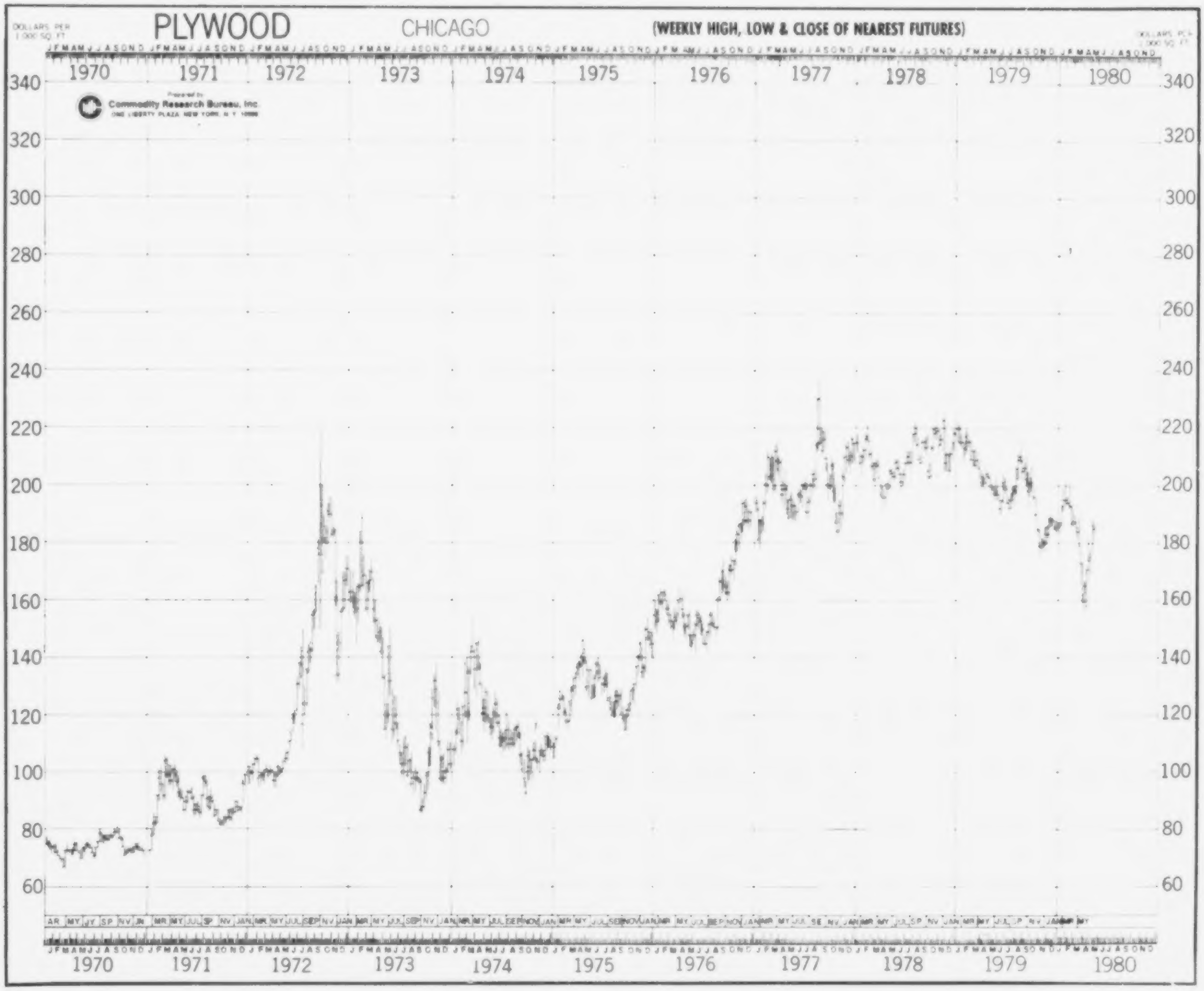
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	76	67	87	95	98	131	89	100	90	103	82	95	1,112
1968	100	108	107	110	104	81	100	94	81	90	82	84	1,143
1969	72	73	73	103	106	101	88	91	120	103	85	116	1,158
1970	89	92	104	111	91	129	93	119	139	97	99	103	1,266
1971	80	87	91	90	88	95	79	85	72	88	131	95	1,081
1972	92	101	152	120	126	127	170	132	129	139	104	103	1,390
1973	125	130	176	194	201	174	152	181	204	192	141	129	1,959
1974	163	145	186	188	206	135	115	143	100	139	98	87	1,668
1975	86	112	[illegible]	130	113	125	155	151	142	126	131	131	1,643
1976	132	147	139	161	156	152	254	153	165	160	140	150	1,909
1977	144	147	169	142	167	150	116	156	128	99	108	142	1,670
1978	72	94	110	125	212	118	93	88	94	96	96	100	1,300
1979	97	121	129	126	127	126	106	121	147	112	124	113	1,447
1980													

Source: Department of Commerce

Lumber Production[1] in the United States In Millions of Board Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	2,589	2,730	3,201	2,955	3,125	3,056	2,710	3,205	3,043	3,133	2,933	2,595	34,449
1968	2,738	2,881	3,162	3,298	3,314	3,123	3,162	3,254	3,223	3,417	3,021	2,857	36,124
1969	2,974	3,038	3,343	3,463	3,298	3,116	3,079	3,171	3,256	3,459	2,926	2,820	35,791
1970	2,902	2,859	3,164	3,203	3,080	2,967	3,004	3,045	3,104	3,201	2,733	2,639	34,548
1971	2,794	2,983	3,339	3,451	3,168	3,384	3,194	3,220	3,242	3,199	3,028	2,924	36,693
1972	2,832	3,076	3,383	3,272	3,420	3,301	3,102	3,417	3,303	3,528	3,193	2,664	38,044
1973	3,012	3,074	3,456	3,272	3,290	3,207	3,038	3,456	3,250	3,453	3,057	2,710	38,658
1974	2,741	2,945	3,191	3,457	3,302	3,006	2,895	3,024	2,736	2,691	2,194	1,930	34,592
1975	2,072	2,148	2,480	2,779	2,849	2,814	2,797	2,914	2,986	3,147	2,530	2,500	32,087
1976	2,821	2,804	3,144	3,209	2,960	2,949	2,963	3,265	3,226	3,305	2,972	2,921	37,153
1977[2]	2,822	2,930	3,388	3,260	3,253	3,160	2,975	3,290	3,368	3,268	2,839	2,944	37,520
1978[2]	2,843	2,904	3,222	3,167	3,203	3,333	2,988	3,263	3,285	3,333	3,102	2,931	37,657
1979[2]	2,877	2,877	3,306	3,119	3,219	3,143	3,018	3,355	3,131	3,412	2,914	2,631	36,965
1980													

[1] Adjusted with Census reports on lumber production. [2] Preliminary. *Source: National Lumber Manufacturers' Association*



Average Price of Softwood Lumber—Redwood, Boards, Clear, F. G., Dry —$ Ths. Board Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	169.11	170.31	171.47	171.47	172.63	172.02	170.86	170.86	169.30	168.63	167.97	165.24	169.99
1968	165.24	164.54	165.24	164.71	163.31	163.31	163.31	163.31	165.94	169.33	169.33	175.42	166.36
1969	179.83	195.55	208.29	213.84	215.44	213.07	213.84	215.44	215.44	222.46	225.60	227.24	212.59
1970	227.24	225.69	225.69	225.69	225.69	225.69	225.69	227.32	228.14	228.14	229.65	226.54	226.76
1971	228.10	228.10	228.10	228.10	224.99	224.22	224.22	232.02	232.02	231.87	226.28	225.35	227.78
1972[2]	217.76	223.54	231.28	244.23	246.14	249.96	249.96	256.79	256.79	256.79	256.79	256.79	245.57
1973	256.79	273.54	292.16	304.50	320.40	338.44	338.44	346.20	354.21	360.41	379.34	405.23	330.81
1974	414.54	426.95	433.16	445.57	451.78	451.78	451.78	484.45	463.87	448.35	435.94	431.28	444.95
1975[1]	513.09	513.09	513.09	513.09	506.11	506.11	506.17	501.27	501.27	501.27	497.60	494.66	505.56
1976	494.90	494.90	500.54	502.99	502.99	502.99	502.99	507.89	510.34	510.34	510.34	517.69	504.91
1977	530.06	536.18	559.46	584.20	589.10	598.54	609.56	609.56	643.13	650.48	653.78	677.06	603.43
1978	710.01	741.86	740.64	779.84	795.76	812.18	812.42	812.42	852.72	852.72	869.32	874.47	804.53
1979	887.57	904.36	933.76	952.13	977.55	989.19	991.64	991.64	1032.51	1040.27	1048.44	1048.44	983.13
1980	1048.44	1051.70											

[1] Data prior to 1975 are for F. G., 1" x 4", R. L., dried, mixed carlot, f.o.b. mill (rail shipment) [Douglas Fir Drop Siding (C & Better)]. [2] Data prior to 1972 are for Douglas Fir FLOORING. *Source: Bureau of Labor Statistics* (0811–0355.06)

LUMBER AND PLYWOOD

Average Price of Ponderosa Pine[1] Softwood Lumber—No. 3 In Dollars Per Thousand Board Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	65.88	66.40	69.55	73.32	74.16	73.87	73.83	73.12	73.18	74.39	73.73	71.94	71.95
1968	70.78	71.86	75.90	87.26	92.16	88.72	87.67	89.03	89.99	94.11	98.64	106.49	87.72
1969	115.76	129.86	145.12	163.54	145.05	110.28	82.19	79.64	74.90	76.02	77.83	86.00	107.18
1970	90.55	84.43	82.45	82.95	90.14	94.14	88.00	82.39	81.31	78.54	75.64	74.90	83.79
1971	72.36	75.01	84.94	101.21	99.29	92.70	96.40	106.24	109.10	106.57	105.14	108.28	96.44
1972	113.20	117.69	121.77	127.01	130.52	134.59	135.18	139.34	138.78	138.44	138.05	136.37	130.91
1973	139.85	154.21	183.12	212.59	243.95	228.13	197.73	160.65	155.33	154.98	155.90	168.99	179.62
1974	193.90	190.23	204.37	234.99	231.32	200.60	174.35	138.40	121.26	100.46	99.66	120.06	151.38
1975	126.78	132.83	150.35	154.31	173.62	170.71	145.95	141.17	131.78	128.87	127.30	—	131.97
1976	154.01	177.50	198.52	209.92	189.73	165.91	161.57	168.63	182.50	198.68	198.57	206.15	184.31
1977	227.16	232.18	245.58	251.21	239.98	216.44	219.96	232.57	236.48	235.28	215.40	226.17	231.53
1978	247.58	263.85	264.90	267.57	240.07	251.25	232.33	236.92	254.23	267.17	N.A.	317.01	237.07
1979	304.49	332.11	366.87	371.17	342.59	338.16	306.16	301.95	309.48	316.41	277.35	240.42	317.26
1980	252.62	291.36											

[1] No. 3, 1" x 12", R.L. (6' and over). *Source: Bureau of Labor Statistics* (0811-0339.04)

Average Price of Softwood Yellow Southern Pine Flooring[1] (C & Better) —$ Per Ths. Board Feet

Year	Jan.	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	155.40	154.70	154.70	154.70	153.72	153.72	153.79	154.49	155.61	156.01	156.71	157.11	155.06
1968	158.93	156.43	158.61	159.92	161.49	161.49	162.91	164.02	164.38	164.51	165.46	167.03	162.10
1969	173.36	180.90	186.69	188.51	188.51	186.41	181.55	180.88	180.88	183.68	185.78	187.15	183.69
1970	187.15	187.15	187.15	187.15	189.35	189.35	189.35	189.06	189.06	189.83	189.83	189.02	188.62
1971	188.20	188.98	188.16	192.28	192.28	194.19	199.04	199.04	199.04	199.04	199.04	199.04	194.86
1972	200.34	202.10	203.03	207.54	207.54	205.97	205.97	205.97	207.14	207.52	209.87	209.87	206.07
1973	209.87	219.91	243.04	253.82	266.89	298.90	277.67	287.47	315.23	315.23	320.13	320.13	277.36
1974	321.77	321.77	329.93	346.27	346.27	347.90	352.80	352.80	352.80	352.80	341.37	341.37	342.90
1975	341.37	341.37	344.63	344.63	346.27	344.63	336.47	336.47	336.47	329.93	331.57	333.20	338.92
1976	339.73	341.37	346.27	346.27	346.27	346.27	348.55	351.17	354.43	355.09	356.07	356.07	348.96
1977	356.07	356.07	359.33	362.60	364.23	367.50	375.67	380.57	387.10	388.73	392.00	395.27	373.76
1978	400.17	403.23	406.87	405.07	409.97	409.97	413.23	419.11	421.40	424.01	424.67	426.30	413.67
1979	426.30	427.93	431.20	433.81	436.10	437.73	454.07	461.25	465.50	472.03	478.57	478.57	450.26
1980	478.57	483.47											

[1] Flooring, C and better, F. G., 1" x 4" x S/L. *Source: Bureau of Labor Statistics* (0811-0221.08)

Average Price of Douglas Fir Softwood Lumber—Dimension, Construction, Dried, 2" × 4", R.L.[1]
In Dollars Per Thousand Board Feet

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	83.94	80.91	84.06	82.96	82.40	83.24	82.82	86.09	90.71	89.63	89.20	90.43	85.54
1968	95.75	98.62	105.88	103.56	103.84	104.66	103.47	111.01	112.36	113.06	113.06	123.98	107.85
1969	130.11	137.49	147.11	140.41	125.96	109.95	95.71	95.08	94.61	94.28	96.15	95.37	113.52
1970	92.86	91.43	90.66	92.06	92.68	90.80	90.33	93.00	95.04	94.27	92.85	90.68	92.22
1971	91.45	98.65	110.95	111.50	112.12	116.72	125.72	129.92	128.88	128.59	127.45	130.23	117.68
1972	134.97	135.33	135.70	137.42	141.64	143.55	149.32	149.72	150.30	150.70	151.28	151.28	144.27
1973	152.46	168.46	193.96	197.22	209.91	192.13	180.93	180.19	190.27	176.11	170.43	170.27	181.86
1974	159.25	163.06	181.51	186.18	179.03	167.63	162.47	152.62	146.22	135.85	139.09	133.21	158.84
1975	138.41	146.90	147.29	156.60	169.67	161.54	165.47	169.77	166.79	160.09	157.56	166.40	158.88
1976	175.43	178.29	184.90	180.05	176.06	171.45	187.49	195.59	215.08	207.79	204.02	218.77	191.24
1977	228.38	225.50	232.09	226.05	225.42	213.79	230.93	242.51	256.92	237.27	218.03	227.70	230.38
1978	238.08	241.81	246.28	238.48	238.43	245.28	245.00	272.06	274.74	266.66	271.51	262.40	253.39
1979	258.77	260.53	261.46	267.69	271.17	270.53	274.89	303.60	320.46	304.34	283.66	249.76	277.24
1980	237.36	236.96	222.70										

[1] Dried, S4S, mixed carlots, f.o.b. mill, rail shipment. *Source: Bureau of Labor Statistics* (0811-0105.06)

Magnesium

U.S. production of magnesium metal in 1979 was about 7 percent higher than in the previous year, according to a U.S. Bureau of Mines estimate. However, production of magnesium compounds, used largely in the production of high-temperature, basic refractories, was estimated to be somewhat smaller than in 1978.

Domestic consumption of magnesium metal was estimated by the U.S. Bureau of Mines to have increased slightly in 1979. The manufacture of aluminum-base alloys accounted for an estimated 54 percent of total metal consumption; magnesium castings and wrought products, 19 percent; the manufacture of chemicals, 10 percent; nodular cast iron, 7 percent; reducing agent, 5 percent; cathodic protection, 4 percent; other uses, 1 percent. The demand for magnesium compounds continued strong in 1979, and was not dependent on imported materials. From a base year of 1977, the demand for nonmetallic magnesium is expected to increase at an annual rate of about 1.9 percent through 1985, whereas demand for magnesium metal is expected to increase at an annual rate of about 6.1 percent through 1985. The longer life and higher quality of magnesium refractories tend to restrict large future growth in their demand.

Aluminum and zinc may be substituted for magnesium castings and wrought products, and alumina and silica can be substituted for magnesia in refractories.

The price of primary metal ingot was quoted at $1.01 per pound until January 31, 1979, when it was increased to $1.055 per pound. It was increased on October 1 to $1.09 per pound, at which price it remained through the end of the year.

U.S. imports of magnesium metal for consumption are small, with the major suppliers being Norway, Canada, The Netherlands, and Italy.

World Production of Magnesium (Primary) In Short Tons

Year	Canada	France	W. Germany	Italy	Japan	China	Norway	Japan	U.S.S.R.	Un. Kingdom	United States	World Total[1]
1967	8,887	4,590	220	6,963	7,438	1,102	33,570		44,100	4,519	97,406	208,575
1968	9,928	4,938		7,273	6,236	1,100	34,487		46,000	3,968	98,375	212,305
1969	10,637	4,866		7,093	10,342	1,100	34,333		50,000	3,211	99,887	221,469
1970	10,353	5,083		8,356	11,395	1,100	38,959		55,000	3,038	112,007	242,253
1971	7,234	7,954		8,496	10,685	1,100	39,799	10,685	57,000	3,100	123,485	255,753
1972	5,924	7,550		8,335	12,004	1,100	40,149	12,004	60,000		120,823	255,960
1973	6,840	9,511		9,850	12,349	1,100	41,360	12,349	63,000		122,431	266,441
1974	6,535	7,199		8,191	9,836	1,100	43,866	9,836	66,000		N.A.	142,727
1975	4,217	8,303		6,993	9,412	1,100	42,259	9,412	66,000			138,284
1976	6,715	8,825		7,753	12,335	1,100	42,778	12,335	69,000			148,506
1977[2]	8,356	9,574		8,031	10,379	1,100	42,070	10,379	71,000			150,510
1978[1]	9,000	10,000		8,000	12,000	1,000	43,000	12,000	77,000		150,000	310,000
1979[1]	10,000	10,000		10,000	12,000	1,000	50,000	12,000	80,000		160,000	333,000
1980												

[1] Estimate. [2] Preliminary. *Source: Bureau of Mines*

Salient Statistics of Magnesium in the United States In Short Tons

	Production							$	Domestic Consumption of Primary Magnesium				
		Secondary							Structural Products				
Year	Primary (Ingot)	New Scrap	Old Scrap	Total	Exports[2]	Imports for Consumption	Stocks Dec. 31[3]	Price per Pound[4]	Castings	Wrought	Total	Other Uses[5]	Total
1965	81,361	9,949	3,668	13,617	17,836	2,551	12,800	.35¼	9,372	10,932	20,304	49,318	69,622
1966	79,794	10,589	4,540	15,129	14,869	3,265	9,500	.35¼	9,573	13,175	22,748	60,166	82,914
1967	97,406	9,328	4,116	13,444	11,989	9,235	12,873	.35¼	12,769	10,517	23,286	67,539	90,825
1968	98,375	12,056	3,469	15,525	19,457	4,808	9,940	.35¼	11,684	11,280	22,964	63,463	86,427
1969	99,887	10,479	2,991	13,470	27,372	4,316	12,572	.35¼	10,450	13,110	23,560	71,572	95,132
1970	112,006	9,262	2,780	12,042	35,732	3,295	12,696	.35¼	10,997	12,250	23,247	70,248	93,495
1971	123,485	11,560	3,143	14,703	24,311	3,671	13,021	.36¼	8,376	10,717	19,093	73,073	92,166
1972	120,823	12,639	2,989	15,628	17,556	4,479	23,011	.37¼	10,762	12,947	23,709	79,982	103,691
1973	122,431	13,535	4,101	17,636	39,585	3,325	18,894	.37¼	12,137	12,965	25,102	90,672	115,774
1974	N.A.	9,155	5,719	14,874	46,398	5,305	23,000	41¼-.75	14,176	13,348	27,524	102,524	130,048
1975	N.A.	18,090	9,783	27,873	32,591	7,903	19,664	.82	9,488	9,666	19,154	75,013	94,167
1976	N.A.	19,024	11,529	30,553	13,444	14,907	17,295	.87-.92	7,051	10,241	17,292	87,161	104,453
1977[6]	N.A.	20,170	12,524	32,694	28,061	5,964	13,000	.96-.99	7,201	12,632	19,833	83,743	103,576
1978[1]				36,000	41,807	6,668	10,000	.99-1.01					109,000
1979[1]				40,000	54,279	4,755		1.01-1.09					115,000
1980													

[1] Estimate. [2] Metal & alloys in crude form, & scrap. [3] Producers' & consumers' stocks of primary magnesium. Gov't. agencies continue to hold quantities of primary magnesium. [4] Magnesium ingots (99.8%) f.o.b. Valasco, Texas. [5] Distributive or sacrificial purposes. [6] Preliminary. *Source: Bureau of Mines*

Manganese

Manganese is essential for the production of virtually all steels, and there are no satisfactory substitutes for this purpose. Manganese also is important in the production of aluminum and cast iron.

The U.S. has no reserves of manganese ore containing 35 percent or more manganese, and none was produced in 1979. Domestic production of manganiferous ore, containing 5 percent to 35 percent manganese, continued in 1979, but this ore accounts for less than 2% of apparent U.S. consumption of manganese.

Demand for manganese varies in direct proportion with steel production in both the United States and the rest of the world. The U.S. demand is met primarily by imports of ore, alloy, and metal, augmented by release of excesses from government stockpiles. The trend with respect to imports has been for those of ore to decline and those for alloys and metals to increase.

The three principal domestic consumers of manganese ore have been the country's two largest steel companies, U.S. Steel Corp. and Bethlehem Steel Corp., and the largest producer of ferroalloys and dry-cell batteries, Union Carbide Corp. All three have had significant interests in important foreign manganese ore producers.

Manganese, which imparts strength, toughness, and hardness to steels in addition to its general desulfurizing, deoxidizing and conditioning effects, is used by the steel industry chiefly in the form of ferromanganese or silicomanganese. U.S. imports of ferromanganese in 1979 were about 10 percent larger than in 1978. The major sources of ferromanganese imports in 1979 were the Republic of South Africa, 34 percent; France, 25 percent; Japan, 11 percent; and others, 30 percent. Shipments to the U.S. industry from U.S. government stockpile excesses of ore were larger in 1979 than in the previous year.

World Production of Manganese Ore In Thousands of Short Tons

Year	Zaire (Congo)	Brazil	Chile	China (Mainland)	Gabon	Morocco	Ghana[3]	India	Japan	Australia	South Africa	U.S.S.R.	Mexico	World Total
% Mn	42+	38-50	41-47	30+	50-53	53	32-50+	10-54	28-45	46-49	30+	N.A.	52	
1967	299.4	1,325	16.4	770	1,264	315.4	549.4	1,752	373.7	627	2,003	7,909		18,748
1968	354.7	1,852	26.3	990	1,383	176.6	455.6	1,766	344.2	820	2,173	7,236		18,628
1969	343.3	2,217	26.1	1,100	1,536	143.9	366.8	1,638	331.6	981	2,430	7,221		19,230
1970	382.4	2,071	29.5	1,100	1,602	123.9	446.8	1,820	298.1	828	2,954	7,541	301.9	20,084
1971	362.7	2,868	31.8	1,100	2,057	111.8	659.8	2,029	314.2	1,158	3,568	8,067	294.2	23,178
1972	407.3	2,268	17.7	1,100	2,135	105.9	549.3	1,810	287.4	1,284	3,606	8,619	325.9	22,948
1973	368.1	1,780	15.9	1,100	2,115	161.1	350.8	1,641	208.0	1,678	4,603	9,089	401.3	23,970
1974	317.2	1,972	31.6	1,100	2,275	192.7	275.9	1,656	183.6	1,678	5,231	8,989	444.4	24,751
1975	340.1	2,377	22.1	1,100	2,475	144.3	450.6	1,738	174.1	1,714	6,359	9,324	472.3	27,175
1976	200.8	1,870	26.1	1,100	2,444	129.3	343.8	1,940	156.2	2,375	6,010	9,520	499.6	27,153
1977[1]	45.2	990	19.8	1,100	2,040	125.2	294.6	1,955	138.9	1,529	5,564	9,370	536.4	24,267
1978[2]		1,100			1,885			1,727		1,422	4,759			23,200
1979[2]		1,200			2,000			1,800		1,400	5,000			24,000
1980														

[1] Preliminary. [2] Estimated. [3] Dry weight. *Source: Bureau of Mines*

Salient Statistics of Manganese in the United States In Thousands of Short Tons (Gross Weight)

	Manganese Ore (35% or More Mn)							Ferromanganese				Manganiferous Ore		Spiegelesien	
	Mine Shipments—Ore														
Year	Metallurgical	Battery	Misc.	Total	General Imports	Consumption	Stocks, Dec. 31[2]	Domes. Production	Imports For Consumption	Exports	Consumption	Production	Value Mil. $[4]	Stocks Dec. 31[2]	Consumption
1967	N.A.	N.A.	—	12.6	2,059	2,383	1,942	940.9	216.3	1.9	982.1	289.2	2.6	34.7	29.4
1968	10.5	.8	—	11.4	1,828	2,228	1,801	880.0	203.2	3.7	1,017	244.6	2.4	38.4	28.1
1969	5.6	—	—	5.6	1,960	2,181	1,805	852.0	307.9	1.8	1,071	430.6	3.5	15.1	21.8
1970	4.7	—	—	4.7	1,735	2,364	1,768	835.5	290.9	21.7	1,001	368.3	2.8	10.4	20.3
1971	.1	—	—	.1	1,914	2,155	2,010	759.9	242.8	4.5	899	198.3	1.5	12.5	19.7
1972	.6	—	—	.6	1,626	2,331	1,795	800.7	348.5	6.8	968	147.2	1.0	13.2	19.6
1973	.2	—	—	.2	1,520	2,140	1,543	683.1	390.6	8.6	1,117	203.1	1.5	3.7	21.6
1974				—	1,225	1,880	1,841	544.4	421.2	7.0	1,115	272.9	2.3	3.1	18.1
1975				—	1,574	1,819	2,064	575.8	397.2	32.3	882	159.2	1.4	5.2	14.2
1976				—	1,317	1,601	2,256	482.7	537.4	6.8	897	256.6	2.3	8.1	8.4
1977[1]				—	931	1,359	1,626	334.1	534.4	6.1	886	215.9	2.2	.1	6.8
1978[5]				—	548	1,281	1,173	290.6	680	9	985			.1	4.0
1979[5]				—	475	1,263	933	340	750	25	1,000			.1	3
1980															

[1] Preliminary. [2] Including bonded warehouses; excludes Gov't stocks; also excludes small tonnages of dealers' stocks. [3] 5 to 35% Mn. [4] Combined value for total Manganese ore & Manganiferous ores. [5] Estimate.
Source: Bureau of Mines

Manganese Ore (35% or More Mn) Imported[2] into the U.S. In Thousands of Short Tons (Mn Content)

Year	Angola	Zaire	Brazil	Congo (Brazz.)	Guyana	Ghana	India	Mexico	Morocco	Gabon	Australia	Turkey	South Africa	Total	Value Mill. $
1970	33.5	33.8	292.4	—	—	36.2	37.0	17.0	19.9	241.6	32.8	1.5	66.5	847	34.3
1971	27.6	52.8	334.9	—	—	37.8	1.3	13.0	12.7	305.6	52.6	3.8	87.4	938	42.2
1972	17.2	142.0	192.8	16.8	—	22.1	12.4	32.7	13.9	236.8	40.3	—	65.7	793	34.3
1973	—	35.7	299.4	—	—	18.6	—	41.2	13.9	196.1	61.5	—	55.9	723	37.4
1974	—	25.3	222.0	—	—	4.5	—	16.4	27.5	150.1	114.0	—	32.9	593	45.1
1975	—	11.4	307.4	—	—	—	—	23.2	—	244.8	86.5	—	92.2	766	77.1
1976	—	2.9	161.1	13.3	—	—	—	18.5	18.7	256.4	117.4	—	61.0	649	73.6
1977[1]	—	14.7	111.6	—	—	—	—	34.9	17.1	245.2	13.8	—	16.9	454	56.4
1978[1]		13.2	52.1	9.5				18.4	14.5	127.0	32.6			267.2	
1979[1]			51.7	22.5				2.1	10.7	48.1	55.3		41.5	231.8	

[1] Preliminary. [2] Imported for consumption. *Source: Dept. of Commerce*

United States General Imports[1] of Manganese Ore In Thousands of Long Tons—Manganese Content

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	106	45	41	56	34	47	102	149	81	117	98	115	990
1971	54	49	74	93	93	114	143	119	99	40	41	102	1,019
1972	104	92	87	65	52	72	78	97	88	90	74	50	934
1973	106	72	52	101	99	58	85	72	51	127	41	51	916
1974	56	41	81	27	57	76	61	50	94	92	103	112	851
1975	79	40	108	138	116	84	77	88	51	112	43	98	1,033
1976	101	39	83	68	53	161	45	134	87	75	93	114	1,053
1977	70	53	29	48	121	119	62	87	110	49	21	64	834
1978	94	50	113	49	71	55	82	42	97	62	64	63	842
1979	62	50	60	57	85	122	61	34	85	53	105	76	850

[1] General imports of ore, concentrates manganiferous ore, manganese alloys & metals. *Source: Department of Commerce*

Average Price of Ferromanganese[1] (78% Mn-F.O.B. Plant) In Dollars Per Gross Ton—Carloads

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	164½	164½	164½	164½	164½	164½	164½	164½	164½	164½	164½	164½	164.50
1970	175	175	175	175	175	175	185	185	185	185	190	190	188.33
1971	190	190	190	190	190	190	190	190	190	190	190	190	190.00
1972	190	190	190	190	190	190	190	190	190	190	190	190	190.00
1973	200	200	200	200	200	200	200	200	200	200	200	200	200.00
1974	200	200	200	270	270	294¾	315	333⅓	350	350	350	440	297.76
1975	440	440	440	440	440	440	440	440	440	440	440	440	440.00
1976	432½	432½	432½	432½	432½	432½	432½	432½	432½	432½	425	417½	430.63
1977	417½	417½	417½	399½	399½	399½	399½	399½	399½	399½	399½	399½	404.00
1978	399½	399½	399½	399½	422.17	425	425	425	425	425	425	425	416.26
1979	427.60	427.60	427.60	444.23	467.52	467.52	487.52	487.52	487.52	487.52	500.85	500.85	467.82
1980	500.85												

[1] Domestic standard. *Source: American Metal Mkt.; Bureau of Labor Statistics* (1016–0111.04)

Production of Ferromanganese in U.S., & Materials Used in Its Manufacture

	Ferromanganese Produced			Silico-Manganese (Gr. Wt.) Sh. Tns.	Materials Consumed (Short tons)			
		Manganese Contained			Manganese Ore		Manganese Ore Used Per Ton of Ferromanganese & Silicomanganese	Ferromanganese Made
Year	Short Tons	Per Cent	Short Tons		Foreign	Domestic		
1970	835,463	78.5	655,436		2,098,210	1,216	2.0	2.4
1971	759,896	78.6	597,205	165,000	1,820,408	7,083	1.9	2.4
1972	800,723	78.3	627,358	153,000	1,896,483	25,620	2.0	2.3
1973	683,075	78.8	538,119	184,000	1,648,806	25,912	1.9	2.4
1974	544,361	78.0	424,405	196,000	1,348,425	55,822	1.8	2.5
1975	575,809	78.9	454,309	143,000	1,389,300	48,011	1.9	2.4
1976	482,662	79.0	381,328	129,000	1,208,336	53,632	2.0	2.5
1977[1]	334,134	78.8	263,136	120,000	889,296	35,769	1.9	2.6

[1] Preliminary. *Source: Bureau of Mines*

Margarine

Salient Statistics of Margarine in the United States In Million Pounds (Actual Weight)

				Domestic Disappearance[2]		Materials Used in Manufacture of Margarine								
Year	Stocks Jan. 1	Production	Exports & Shipments	Total	Per Person in lbs.	Coconut Oil	Cottonseed Oil	Soybean Oil	Peanut Oil	Corn Oil	Lard & Beef Fats	Safflower Oil	All Other Edible Oil	Total Primary & Secondary Fats & Oils
1971	46	2,290	13	2,264	11.1	7	63	1,385	—	186	169	19	2	1,831
1972	57	2,364	13	2,338	11.3	6	65	1,461	—	194	138	20	2	1,886
1973	69	2,359	13	2,350	11.3	4	63	1,491	—	213	80	32	8	1,891
1974	61	2,398	15	2,371	11.3	9	58	1,457	—	188	167	16	9	1,904
1975	64	2,399	17	2,375	11.2	20	46	1,568	1	188	52	7	38	1,920
1976	60	2,628	20	2,595	12.2	4	51	1,671	38	218	44	10	58	2,094
1977	67	2,535	20	2,495	11.6	5	44	1,584	15	243	80	8	48	2,027
1978[1]	80	2,520	31	2,492	11.5	7	42	1,593	—	211	74	10	27	1,964
1979[1]	70	2,553												
1980[1]	81													

[1] Preliminary. [2] Civilian & military. *Source: Bureau of Census*

United States Production of Margarine In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1971	212.9	189.0	195.9	181.0	176.4	185.9	163.4	173.3	194.7	188.2	210.1	219.4	2,290
1972	207.9	194.9	202.0	181.5	186.5	186.3	164.4	194.7	197.3	203.8	216.1	228.7	2,364
1973	232.6	191.7	198.7	184.4	200.3	168.5	151.8	187.7	185.8	224.2	218.2	215.1	2,359
1974	248.1	205.7	213.4	194.8	202.9	174.4	192.0	163.2	182.2	229.5	203.9	187.6	2,398
1975	211.0	201.2	198.7	181.7	183.0	180.6	173.7	178.7	216.6	212.8	219.7	241.6	2,399
1976	265.1	259.6	225.8	198.8	190.5	199.8	197.4	195.1	202.8	215.6	233.2	246.0	2,630
1977[1]	242.3	236.5	232.7	197.3	178.8	179.8	164.8	198.2	209.1	221.8	229.0	244.7	2,535
1978[1]	219.8	224.6	243.0	186.8	183.7	194.6	166.0	200.6	207.6	222.2	220.6	250.0	2,520
1979[1]	233.1	214.8	242.9	186.8	197.5	193.0	188.3	199.0	205.9	225.8	224.6	241.5	2,553
1980[1]	235.8	228.6											

[1] Preliminary. *Source: Bureau of the Census*

Stocks[1] of Margarine in the United States In Millions of Pounds

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1971	45.6	50.4	59.4	57.7	55.9	61.2	61.6	72.9	65.5	63.5	64.3	60.7
1972	57.1	68.9	71.4	69.1	82.6	83.9	67.1	68.4	71.0	68.9	69.8	67.7
1973	69.3	80.6	80.2	70.1	66.6	68.2	69.7	57.4	47.1	58.4	60.2	59.3
1974	61.2	55.3	63.0	74.4	75.2	80.3	77.8	70.8	69.0	71.8	74.1	70.0
1975	64.3	65.6	72.5	65.8	75.8	64.4	63.6	66.6	52.6	58.6	60.2	64.8
1976	60.1	67.0	82.1	101.1	70.2	71.4	70.8	73.6	80.0	72.4	72.2	69.8
1977[2]	67.2	67.4	70.7	71.8	77.3	91.0	81.0	73.7	68.6	58.9	74.0	70.0
1978[2]	79.9	61.8	70.3	59.3	72.3	63.4	68.8	67.8	60.3	66.0	68.9	58.9
1979[2]	69.5	66.8	82.1	67.5	77.3	75.2	78.3	68.7	77.1	72.7	81.6	64.9
1980[2]	80.5	71.6	80.0									

[1] Producers' and warehouse. [2] Preliminary. *Source: Bureau of the Census*

Average Wholesale Price of Margarine, White (Domestic Vegetable) in Chicago In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1971	19.5	19.5	19.5	19.5	19.5	19.8	21.5	23.0	23.0	23.0	23.5	23.5	21.2
1972	22.8	22.5	22.5	22.5	22.5	22.5	21.8	21.2	21.0	21.0	21.0	21.0	21.8
1973	21.0	23.1	25.0	25.5	25.9	27.5	27.9	41.7	34.1	36.9	37.0	37.0	30.2
1974	38.5	40.8	43.3	42.5	40.4	39.8	44.3	53.3	46.5	49.6	48.5	44.4	44.3
1975	41.8	41.5	39.3	41.5	39.5	39.3	39.2	38.1	36.0	34.3	33.5	31.3	37.9
1976	31.0	31.0	31.0	31.0	30.7	30.0	31.8	30.0	32.0	32.0	33.0	33.0	31.4
1977	33.8	34.0	39.5	42.5	44.3	43.9	42.4	40.3	38.5	37.4	36.9	36.1	39.1
1978	34.5	34.6	38.9	41.6	42.8	47.4	46.0	45.7	48.2	47.8	48.4	46.5	43.5
1979	48.4	49.7	50.5	49.8	48.9	49.3	51.2	51.2	52.5	51.0	49.9	51.2	50.3
1980	49.1	47.5											

Source: Department of Agriculture

Meats

U.S. red meat production in 1979 of 37.6 billion pounds was 2 percent less than 1978 production. Beef production was down 12 percent to 21.4 billion pounds, and veal production was off 31 percent to 434 million pounds. However, pork production increased 15 percent in 1979 to 15.5 billion pounds. Lamb and mutton production in 1979 was off 5 percent from 1978 output to 293 million pounds.

The USDA, in early 1980, expected beef supplies to decline another 2 to 4 percent from the 1979 level, marking the fourth consecutive year of decline. However, pork and poultry supplies were each expected to increase 4 to 6 percent, more than offsetting declining beef supplies. Total red meat and poultry supplies in 1980 were expected to increase about 1 percent, to about the record levels of 1976 and 1977.

Per capita consumption of red meat and poultry totaled 243 pounds in 1979, about the same as in the previous year. But the mix was different, about 13 fewer pounds of beef and veal was consumed per capita, but this deficit was offset by an additional 9 pounds of pork and 4 more pounds of poultry. Total meat consumption per person in 1980 was expected to be up about 3 pounds from 1979 levels and near the record consumption levels of 1976 and 1977. But less of the higher-priced beef and more of the relatively lower-priced pork and poultry was expected to be consumed.

During 1979, consumers spent about 3.8 percent of their income for red meat, of which almost 2.5 percent was for beef. This was expected to decline slightly to about 3.7 percent and 2.4 percent, respectively, in 1980.

The Meat Import Act of 1979 was signed into law on December 31, 1979. This law amends the 1964 act and changes the method for computing the adjusted base quantity of beef and other meat imports.

A minimum import level of 1.25 billions pounds is established under the new law. Estimates of domestic production yield an adjusted base quantity level for 1980 imports of 1,516 million pounds (product weight), and an import trigger level of 1,668 million pounds. The new law calls for imposition of quotas if the estimates indicate that the import levels would exceed the trigger point.

World Total Meat[1] Production In Millions of Metric Tons

Year	Argentina	Australia	Bel. & Lux.	Canada	Czechoslovakia	Denmark	France	W. Germany	Japan	Italy	N. Zealand	Poland	Brazil	South Africa	Un. Kingdom	United States	U.S.S.R.
1968	6.7	3.8	1.3	3.2	1.5	2.0	6.8	7.5	1.5	3.0	2.1	3.2	5.2	1.4	4.4	35.3	19.8
1969	3.4	1.9	.6	1.4	.7	.9	2.9	3.4	.7	1.4	1.0	1.5	2.5	.7	2.0	16.0	9.0
1970	3.1	1.9	.7	1.5	.7	.9	3.0	3.6	.9	1.4	1.0	1.5	2.6	.7	2.1	16.4	9.1
1971	2.5	2.2	.8	1.6	.7	1.0	3.2	3.8	1.0	1.4	.9	1.5	2.5	.8	2.2	17.1	9.8
1972	2.6	2.4	.8	1.5	.7	.9	3.0	3.6	1.1	1.8	1.0	1.6	2.8	.8	2.1	16.8	10.0
1973	2.6	2.3	.9	1.5	.8	1.0	3.0	3.4	1.1	1.9	1.0	1.8	3.3	.7	2.1	15.8	9.9
1974	2.6	1.9		1.6			3.4	3.8	1.2	2.0		2.0	2.9		2.3	17.1	10.5
1975	2.8	2.4	.9	1.6	.8	1.0	3.4	3.8	1.3	1.7	1.0	2.1	3.0	.8	2.3	16.7	11.0
1976	3.2	2.7	.9	1.7	.8	1.0	3.5	3.9	1.4	1.9	1.2	2.4	3.1	.8	2.1	18.1	10.0
1977	3.3	2.9	.9	1.7	.8	1.0	3.4	3.9	1.5	2.0	1.1	2.3	3.4	.8	2.1	18.0	10.7
1978	3.6	2.8	.9	1.7	.8	1.1	3.5	4.1	1.7	2.1	1.1	2.5	3.1	.8	2.1	17.5	11.2
1979[2]	3.4	2.5	1.0	1.7	.8	1.2	3.7	4.3	1.8	2.1	1.0	2.6	3.0	.9	2.1	17.1	11.0
1980[3]	3.3	2.3	1.0	1.7	.9	1.2	3.8	4.2	1.9	2.1	1.0	2.8	3.1	.9	2.1	17.2	10.9

[1] Production of beef & veal, mutton & lamb, goat meat, & pork. Horsemeat included from 1976. [2] Preliminary. [3] Forecast.
Source: Foreign Agricultural Service, U.S.D.A.

World Per Capita Consumption of Meat[1] (Total Red Meat) In Kilograms

Year	Argentina	Australia	Austria	Canada	Denmark	France	W. Germany	Ireland	N. Zealand	Poland	Switzerland	United Kingdom	United States	Uruguay	U.S.S.R.
1968	103	95	58	72	57	63	61	53	111	42	56	62	83	97	37
1969	107	93	59	72	56	63	61	55	88	42	58	62	83	78	37
1970	96	94	60	73	61	63	63	59	93	42	60	63	85	89	38
1971	82	99	61	74	56	64	66	61	81	44	61	65	86	93	40
1972	74	101	63	73	58	64	67	63	102	47	65	64	88	88	41
1973	79	91	63	71	53	63	65	60	104	49	66	59	81	85	40
1974	87	100	65	73	51	65	67	64	98	74	64	58	87	100	44
1975	99	109	68	73	54	66	67	67	103	73	64	58	83	100	45
1976	101	108	70	79	60	68	69	64	100	67	66	57	89	89	47
1977[2]	100	108	71	77	59	69	69	61	100	67	70	59	88	97	50
1978[2]	104	101	72	73	60	72	73	59	100	69	71	57	85	103	50
1979[3]	98	92	73	70	51	73	77	59	98	70	71	57	83	101	51
1980															

[1] Summation of previous individual meat tables plus horse meat. [2] Preliminary. [3] Forecast.
Source: Foreign Agricultural Service, U.S.D.A.

MEATS

Total Red Meat Imports (Carcass Weight Equivalent[2]) of Importing Countries In Thousands of Metric Tons[3]

Year	Belgium & Lux.	Canada	Czecho-slovakia	France	Germany East	Germany West	Greece	Italy	Japan	Nether-lands	Spain	Swit-zerland	Un. King-dom	United States	U.S.S.R.
1968	172	226	179	491	152	626	200	753	369	177	263	85	3,232	2,137	36
1969[3]	83.0	185.5	88.2	339.0	67.4	303.7	98.6	364.7	268.3	94.9	120.7	48.7	1,518	1,023	39.5
1970	79.8	169.4	108.2	331.7	86.7	375.0	114.5	427.2	252.5	88.8	108.5	55.4	1,425	1,105	105.0
1971	82.5	122.4	65.1	324.0	56.8	422.1	123.9	473.2	312.1	75.5	47.8	53.7	1,431	1,065	133.6
1972	94.5	168.3	36.8	427.2	53.7	603.8	103.1	512.9	422.1	114.5	167.6	56.7	1,524	1,212	87.9
1973	106.0	163.5	85.3	468.4	46.2	605.1	126.7	660.4	592.9	118.5	128.2	56.3	1,312	1,176	94.4
1974	87.3	130.5	41.6	422.3	15.0	563.0	34.3	550.6	394.2	105.0	25.8	33.0	1,059	981.3	455.7
1975	111.7	151.6	12.3	479.1	13.9	586.0	50.3	588.7	569.8	131.2	71.7	24.7	1,064	1,020	454.1
1976	120.5	249.4	22.0	482.2	15.3	614.0	95.0	593.0	692.7	150.0	101.9	26.1	1,132	1,184	274.6
1977	121.2	194.3	21.4	556.2	15.3	627.0	110.9	612.9	649.0	175.3	59.2	26.0	1,280	1,100	496.2
1978	143.9	172.8	20.4	630.4	15.3	633.0	141.5	632.1	665.4	187.5	112.3	33.8	1,377	1,296	132.2
1979[1]	123.0	136.5	20.4	593.8	15.5	620.0	137.0	708.5	727.3	177.0	117.0	30.7	1,345	1,362	286.0
1980[4]	129.5	138.0	21.0	631.7	9.0	630.0	132.0	738.6	682.0	177.5	97.0	24.8	1,375	1,383	380.0
1981															

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[1] Preliminary. [2] Excludes fat, offals & live animals. [3] Data prior to 1969 are in MILLIONS OF POUNDS. [4] Forecast.
Source: Foreign Agricultural Service; U.S.D.A.

Total Red Meat Exports (Carcass Weight Equivalent[2]) of Principal Countries In Thousands of Metric Tons[3]

Year	Argen-tina	Aus-tralia	Brazil	Canada	Den-mark	France	Ire-land	Mex-ico	Nether-lands	N. Zea-land	Poland	United States	U.S.S.R.	Uru-guay	Yugo-slavia
1968	1,671	1,351	185	148	1,445	413	464	115	809	1,367	432	134	348	280	291
1969[3]	909.5	694.7	128.5	65.3	608.3	155.0	223.3	58.3	395.5	734.7	195.2	88.3	122.5	128.9	130.9
1970	859.5	786.4	145.6	94.7	613.1	157.0	230.0	61.5	485.5	710.7	175.0	51.2	75.5	162.0	119.2
1971	556.8	926.6	187.6	102.7	683.7	212.3	256.5	55.9	511.2	731.2	189.3	59.8	60.7	102.1	120.7
1972	771.0	1,137	267.7	102.6	654.8	178.7	226.9	64.1	499.7	736.9	188.7	82.9	82.0	148.4	121.4
1973	600.2	1,132	225.5	112.5	647.0	200.5	227.8	48.2	555.6	723.8	216.2	140.9	98.5	111.8	106.1
1974	357.7	6,106	154.0	81.5	690.4	337.0	300.2	27.3	589.5	620.3	153.6	109.0	79.1	123.4	59.1
1975	329.5	943.0	156.2	78.2	700.2	374.8	359.7	17.6	610.9	708.2	161.7	164.0	63.5	124.1	86.8
1976	628.6	1,129	217.0	112.2	634.1	366.8	282.9	28.5	641.0	788.6	117.7	236.4	67.6	201.8	98.5
1977	669.6	1,335	240.0	112.1	695.6	312.2	363.8	34.1	697.2	790.9	131.8	236.0	49.2	134.6	88.0
1978	823.7	1,377	178.1	116.8	753.4	267.2	360.2	34.1	751.6	725.1	141.0	260.9	57.9	118.8	113.4
1979[1]	756.0	1,291	174.0	148.0	862.4	314.9	365.2	8.6	748.7	745.0	99.0	260.6	52.5	84.0	99.0
1980[4]	632.0	2,206	182.0	139.0	907.7	347.6	352.4	93.4	762.0	749.1	94.2	275.5	52.5	111.2	94.2
1981															

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[1] Preliminary. [2] Excludes fat, offals & live animals. [3] Data prior to 1969 are in MILLIONS OF POUNDS. [4] Forecast.
Source: Foreign Agricultural Service; U.S.D.A.

United States Exports of Livestock & Meat Products In Thousands of Metric Tons[5]

	Red Meats						Byproducts					Live Animals (1,000 Head)			
Year	Beef & Veal	Pork	Lamb, Mutton & Goat	Sausage, Bol. & Frank.	Other Meats[2]	Total	Variety Meats[3]	Saus. Casings (Animal)	Lard	Tallow & Greases	Cattle Parts[4]	Cattle & Calves	Sheep & Lambs	Hogs	Horses, Mules, Etc.
1967	31.3	50.6	1.8	3.5	12.8	100.0	222.3	10.2	188.6	2,238	43.3	55.3	120.7	12.9	15.7
1968	27.0	85.1	1.9	4.3	12.8	131.1	225.2	10.5	195.3	2,245	36.0	35.7	117.7	13.7	15.0
1969	25.7	145.1	1.4	4.7	13.0	190.0	239.8	11.9	261.9	1,908	29.9	39.2	106.2	18.6	11.5
1970	29.3	61.2	1.1	4.1	12.0	107.7	239.5	12.3	365.9	2,261	14.4	88.0	132.9	24.8	40.7
1971	42.0	65.3	1.3	4.0	12.4	125.0	277.5	12.3	282.3	2,616	28.4	93.0	213.8	17.3	14.5
1972	52.2	99.3	1.3	4.0	12.1	168.8	254.1	13.6	164.4	2,368	27.0	103.9	159.4	12.3	21.2
1973	79.1	160.7	1.7	5.6	15.8	263.0	281.9	14.8	113.3	2,319	31.2	272.6	204.3	16.8	71.5
1974[5]	23.0	42.9	1.2	2.4	9.0	78.4	134.2	5.6	73.2	1,218	37.8	204.4	290.7	15.8	66.4
1975	20.7	91.2	1.3	2.2	5.7	121.0	133.2	5.8	39.8	916.0	13.8	195.9	339.2	16.0	36.4
1976	36.6	137.5	1.4	2.5	7.7	185.6	172.2	6.9	81.9	1,076	10.5	204.5	244.5	10.8	37.8
1977	41.5	125.2	1.8	3.4	8.2	180.0	173.1	6.9	82.6	1,319	10.5	107.0	205.1	10.2	23.0
1978	55.0	100.2	1.4	3.7	6.8	167.0	185.8	7.1	54.2	1,228	19.4	122.2	141.8	12.7	79.4
1979[1]	57.4	97.4	.6	3.0	4.7	163.0	168.9	7.2	43.5	1,286	21.6	66.2	125.4	13.4	29.1
1980															

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[1] Preliminary. [2] Canned mainly. [3] Beef, Pork & other byproducts. [4] Excludes furskins. [5] Data prior to 1974 are in MILLIONS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*

Production and Consumption of Red Meats in the United States *(Carcass Weight)*

Year	Beef			Veal			Lamb & Mutton			Pork (Excluding Lard)			All Meats		
	Production Mil. Lbs.	Consumption Total Mil. Lbs.	Consumption Per Capita Lb.	Production Mil. Lbs.	Consumption Total Mil. Lbs.	Consumption Per Capita Lb.	Production Mil. Lbs.	Consumption Total Mil. Lbs.	Consumption Per Capita Lb.	Production Mil. Lbs.	Consumption Total Mil. Lbs.	Consumption Per Capita Lb.	Production Mil. Lbs.	Consumption Total Mil. Lbs.	Consumption Per Capita Lb.
1969	21,158	22,065	110.8	673	654	3.3	550	687	3.4	14,245	14,224	71.4	36,626	37,630	188.9
1970	21,685	22,926	113.7	588	581	2.9	551	657	3.3	14,699	14,661	72.7	37,523	38,825	192.6
1971	21,902	23,084	113.0	546	545	2.7	555	645	3.1	16,006	16,127	79.0	39,009	40,401	197.8
1972	22,419	23,962	116.1	459	465	2.2	543	684	3.3	14,422	14,712	71.3	37,843	39,823	192.9
1973	21,277	22,812	109.6	357	376	1.8	514	557	2.7	13,223	13,298	63.9	35,371	37,044	178.0
1974	23,138	24,489	116.8	486	493	2.3	465	483	2.3	14,331	14,493	69.1	38,420	39,958	190.5
1975	23,976	25,398	120.1	873	876	4.2	410	430	2.0	11,779	11,852	56.1	32,038	38,556	182.4
1976	25,969	27,549	129.3	853	854	4.0	371	396	1.9	12,688	12,668	59.5	39,881	41,467	194.7
1977	25,279	27,038	125.9	834	836	3.9	351	371	1.7	13,247	13,200	61.5	39,711	41,445	193.0
1978[1]	24,242	25,999	120.1	632	646	3.0	309	342	1.6	13,393	13,293	61.4	38,576	40,280	186.1
1979[2]	21,253	21,491	98.3	413	394	2.0	284	301	1.4	15,290	13,809	63.2	37,241	35,995	164.8
1980															

[1] Preliminary. [2] Estimate. *Source: Economic Research Service, U.S.D.A.*

U.S. Imports of Meats and Meat Preparations In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
1969	65	88	198	149	134	139	163	188	174	165	100	122	1,685
1970	173	155	175	143	112	148	171	167	167	155	134	143	1,844
1971	133	112	151	141	133	170	155	166	223	110	102	188	1,789
1972	161	140	138	159	161	152	166	216	206	202	174	138	2,012
1973	165	148	133	149	166	143	153	209	159	207	184	156	1,972
1974	171	137	168	142	126	124	102	141	130	114	134	146	1,634
1975	179	131	145	125	111	135	148	149	157	135	168	112	1,694
1976	175	117	173	158	170	187	159	151	178	170	134	94	1,868
1977	131	150	143	147	147	130	147	158	167	117	87	212	1,741
1978	138	155	183	202	181	167	161	137	182	184	201	181	2,072
1979	201	184	214	201	190	214	168	141	142	143	188	193	2,178
1980	196	152											

Source: Dept. of Commerce

United States Imports of Livestock & Meat Products In Thousands of Metric Tons[2]

Year	Red Meats						Meat for Animal Food	Byproducts				Live Animals (1,000 Head)			
	Beef, Boneless	Canned Corned	Pork	Lamb	Mutton & Goat	Total		Variety Meats	Lard	Tallow & Greases	Meat Extract	Cattle & Calves	Sheep & Lambs	Hogs	Horses, Mules, Etc.
1969	984.6	94.7	315.5	43.9	54.2	1,653		5.6	—	12.7	.9	1,042	22.8	13.4	3.5
1970	1,083	88.5	347.6	43.5	39.5	1,810		9.8	—	8.4	1.2	1,168	11.7	67.8	3.7
1971	1,057	67.1	356.5	38.2	32.3	1,760		6.5	.5	6.1	1.2	991	5.5	77.5	3.7
1972	1,251	80.1	394.7	37.3	55.6	1,990	55.8	7.9	.3	5.7	.9	1,187	13.8	89.0	3.2
1973	1,292	69.9	398.5	27.3	13.0	1,954	41.9	7.2	—	15.1	1.5	1,039	9.5	87.6	3.3
1974[2]	469.0	30.4	164.2	8.1	1.8	733.6	8.3	2.7	.1	7.2	.3	568	.9	196.3	3.7
1975	533.4	24.0	148.4	11.2	.5	762.8	8.0	2.5	—	8.0	.2	389	3.5	29.8	9.2
1976	560.2	45.3	144.0	15.5	.4	838.4	3.7	2.4	—	4.8	.4	984	4.6	45.6	10.0
1977	541.0	34.1	135.3	9.5	.3	784.0	1.4	2.6	0	3.1	.3	1,133	8.5	43.0	11.3
1978	651.1	37.6	157.3	17.2	.2	931.7	1.7	2.5	.1	2.4	.5	1,253	11.2	202.4	19.0
1979[1]	685.5	34.6	163.8	19.4	.4	978.9	1.8	4.7	—	1.1	.6	732	9.5	136.6	16.2
1980															

[1] Preliminary. [2] Data prior to 1974 are in MILLIONS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*

MEATS

U.S. Exports of Meat and Meat Preparations In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec	Total
1967	36	42	41	39	43	39	34	40	40	47	46	36	484
1968	38	27	32	37	34	32	34	45	55	48	62	54	508
1969	29	35	57	54	62	45	46	40	47	62	51	43	571
1970	31	32	33	37	42	41	31	43	53	49	74	51	518
1971	39	41	49	35	46	43	39	51	48	39	43	69	547
1972	40	37	44	45	64	58	48	49	47	67	57	57	614
1973	48	52	81	75	74	66	49	57	53	72	62	70	759
1974	58	51	60	56	51	54	68	64	58	77	64	54	714
1975	57	67	75	65	79	64	70	77	73	76	79	82	864
1976	85	93	114	99	119	109	90	112	110	130	117	128	1,305
1977	100	100	103	113	110	103	112	110	125	106	109	124	1,315
1978	109	101	115	108	108	99	93	119	131	124	119	111	1,338
1979	102	95	117	99	100	124	103	109	119	135	119	155	1.378
1980	101	108											

Source: Dept. of Commerce

Average Wholesale Prices of Meats In Cents Per Pound

Year	Composite Retail Price			Steer Beef Carcass, Choice, Chicago	Fresh Beef, Steer Carcasses Choice, E. Coast	Veal[1] Choice 90-150 Lb. N.Y.	Lamb Carcasses Choice & Prim (35-45 Lb.) East Coast[6]	Fresh Loins, (8-14 lbs.) N.Y.	Hams[2] Fancy Skinned, Smoked	Picnics[7] (Smoked) 4-8 Lb.[5]	Live Broilers Georgia
	of Beef (Choice)	of Pork[4]	of Lamb (Choice)								
1968	88.7	66.8	92.9	43.82	47.3	67.86	55.36	50.90	53.7	42.96	13.1
1969	98.6	73.6	100.7	47.73	49.2	72.37	60.47	57.47	58.0	47.64	14.0
1970	101.7	77.4	105.5	47.33	49.0	83.53	59.13	56.86	54.2	48.40	12.3
1971	108.1	69.8	109.7	52.67	54.7	85.77	60.71	49.85	53.4	32.31	12.8
1972	118.7	82.7	118.8	55.63	57.6	97.06	65.21	64.46	62.6	40.47	13.1
1973	142.1	109.2	134.3	67.62	69.6	115.25	74.30	81.91	81.0	55.51	23.9
1974	146.3	107.8	146.4	73.12	69.1	105.54	83.33	78.56	67.8	47.95	21.1
1975	154.8	134.6	167.6	73.18	75.4	87.80	95.07	99.28	88.2	60.31	26.9
1976	148.2	134.0	185.6	61.00	64.4		102.67	97.68	85.5		24.0
1977[3]	148.4	125.4	186.8	62.69	66.2		108.73	95.25	86.5		23.7
1978[3]	181.9	143.6	219.6	80.43	83.9		127.20	109.15	90.0		26.0
1979[3]	226.3	144.1	245.7	101.62	102.2		134.50	107.6	80.6		25.6
1980											

[1] At N.Y. [2] Composite. [3] Preliminary. [4] Sold as retail cuts (ham, bacon, loin, etc.). [5] Skin off. [6] Prior to 1972—CHICAGO. [7] Prior to 1971 prices are for BACON. *Sources: Bureau of Labor Statistics; Department of Agriculture*

Average Wholesale Price of Steer Beef Carcass, Choice[1], at Midwest Markets[3] In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Average
1967	40.59	39.35	38.24	38.82	40.28	41.34	42.68	43.12	43.74	42.38	41.81	42.06	43.43
1968[2]	42.43	43.30	43.19	43.16[2]	42.96	43.28	44.58	44.61	44.45	43.62	44.50	45.75	43.82
1969	45.85	45.02	47.00	48.63	53.19	53.94	50.68	48.34	46.36	44.58	44.27	44.95	47.73
1970	46.89	46.74	49.34	48.78	47.18	48.02	50.26	48.86	47.38	45.91	44.86	43.79	47.33
1971	48.60	51.86	51.45	52.62	53.96	52.62	52.54	53.99	52.75	51.60	54.08	55.92	52.67
1972	57.52	57.58	54.92	53.72	56.45	59.36	58.69	54.56	53.36	52.95	51.26	57.20	55.63
1973	62.85	66.85	69.38	69.84	69.15	70.92	71.90	—	69.69	65.56	61.97	65.00	67.62
1974	75.56	75.78	67.62	65.84	66.13	62.18	84.92	77.95	79.66	75.62	72.96	73.25	73.12
1975[3]	61.36	58.41	59.50	70.20	80.60	85.76	82.82	77.95	79.66	75.62	72.98	73.25	73.18
1976	66.68	62.22	56.97	65.85	63.56	62.45	58.20	57.05	57.24	58.36	60.85	62.52	61.00
1977	60.04	58.92	57.12	60.54	64.44	62.62	63.65	62.49	63.04	65.87	65.47	68.10	62.69
1978	68.74	71.08	74.88	81.43	88.48	85.95	84.81	79.94	81.96	82.14	80.98	84.75	80.42
1979	93.57	97.47	104.59	108.61	108.64	103.56	99.85	94.13	101.91	98.32	103.22	105.53	101.62
1980	102.26	103.70											
1981													

[1] 500-600 pounds. [2] Beginning Apr. 1968 prices are for 600-700 pounds. [3] Prior to Oct. 1975 prices are at CHICAGO.
Source: Department of Agriculture

Production[2] (Commercial Slaughter[4]) of All Meats[1] in the U.S. In Millions of Pounds—Carcass Weight

Year	Jan.	Feb.	Mar.	Apr	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	2,736	2,422	2,749	2,511	2,572	2,552	2,327	2,625	2,599	2,785	2,645	2,582	31,106
1968	2,816	2,494	2,581	2,689	2,855	2,482	2,661	2,738	2,738	3,132	2,770	2,760	32,717
1969	2,965	2,628	2,765	2,788	2,692	2,602	2,705	2,650	2,917	3,170	2,617	2,872	33,369
1970	2,891	2,535	2,820	2,919	2,738	2,770	2,770	2,731	3,031	3,196	2,951	3,221	34,574
1971	3,076	2,663	3,233	3,074	2,940	3,104	2,879	2,966	3,116	3,027	3,072	3,062	36,209
1972	2,861	2,744	3,193	2,859	3,097	2,996	2,581	3,082	2,968	3,228	3,130	2,893	35,632
1973[4]	3,176	2,722	2,979	2,579	3,051	2,799	2,651	2,704	2,635	3,225	3,079	2,894	34,495
1974	3,255	2,661	3,098	3,149	3,266	2,945	3,026	3,132	3,074	3,471	3,155	3,088	37,323
1975	3,315	2,880	2,959	3,089	2,873	2,832	2,842	2,860	3,088	3,339	2,978	3,159	36,213
1976	3,267	2,907	3,515	3,109	2,928	3,150	3,048	3,350	3,467	3,497	3,453	3,367	39,060
1977	3,238	3,084	3,549	3,200	3,122	3,298	2,925	3,405	3,354	3,344	3,416	3,241	39,172
1978[3]	3,214	3,044	3,341	3,079	3,268	3,078	2,882	3,272	3,138	3,353	3,345	3,094	38,119
1979[3]	3,281	2,756	3,090	2,879	3,130	2,990	2,958	3,329	2,876	3,556	3,306	3,074	37,225
1980[3]	3,393												

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[1] Except for pork production & lard. [2] Represents the total dressed carcass weight of livestock slaughtered under Federal inspection, exclusive of meats from condemned animals. [3] Preliminary. [4] Prior to 1973 data are for INSPECTED SLAUGHTER. *Source: Agricultural Marketing Service, U.S.D.A.*

Cold Storage Holdings of All[1] Meats in the United States, at End of Month In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	667.8	697.1	727.4	782.6	725.0	663.8	600.6	527.9	537.4	591.2	637.9	644.1
1968	652.4	636.0	618.8	662.4	673.1	615.2	547.9	505.8	516.8	571.6	613.8	625.3
1969	595.3	601.0	616.5	677.9	634.2	555.5	512.6	513.1	549.9	612.2	635.2	637.3
1970	660.1	705.9	744.0	812.9	815.8	729.6	673.1	605.7	588.1	645.8	714.6	759.3
1971	769.8	745.2	789.1	866.1	897.4	890.8	831.7	771.6	775.3	768.1	756.0	795.8
1972	745.6	707.1	732.4	819.0	797.5	710.1	638.1	598.8	594.0	641.7	702.0	670.3
1973	681.9	661.5	687.0	706.7	697.6	675.3	588.5	505.4	525.0	643.3	770.0	829.7
1974	868.9	875.4	946.4	995.9	1,011.3	913.8	796.1	725.1	692.0	715.4	754.2	803.2
1975	809.4	793.9	787.4	801.1	725.6	654.0	578.2	518.4	517.5	571.3	667.6	675.2
1976	643.4	652.8	703.1	724.3	740.9	698.1	645.4	597.6	637.7	687.8	725.9	733.3
1977	745.4	759.6	776.4	823.0	802.4	723.4	629.4	568.6	579.0	532.1	565.2	566.6
1978	559.1	571.6	658.4	753.0	759.8	720.6	644.9	581.0	598.1	639.0	715.4	723.6
1979[2]	728.4	710.9	762.5	783.4	791.0	747.2	688.0	578.8	550.8	605.5	657.9	708.7
1980[2]	736.0	715.9	696.6	713.6								
1981												

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[1] Includes beef and veal, mutton and lamb, pork and products, rendered pork fat, and miscellaneous meats. Excludes lard. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Stocks of Frozen Beef[1] in U.S. Cold Storage & Meat Packing Establishments In Millions of Pounds

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	306.6	319.4	312.5	300.0	288.6	288.0	275.7	265.1	245.1	250.3	254.9	268.2
1968	274.7	275.6	253.6	225.1	215.2	193.6	199.1	214.1	231.4	241.7	266.0	296.3
1969	296.5	281.2	271.0	274.6	266.6	247.0	230.9	238.9	266.9	304.0	334.5	333.2
1970	352.9	368.3	374.3	379.6	369.1	353.1	319.3	310.3	289.1	286.9	300.7	317.9
1971	338.4	325.7	308.4	302.1	290.3	285.1	296.7	312.2	333.2	351.1	347.2	326.9
1972	366.0	338.5	308.6	286.0	283.0	276.6	255.7	260.2	283.6	297.7	326.7	351.4
1973	367.1	382.8	368.9	359.3	360.1	335.6	322.4	298.1	253.6	244.5	315.3	392.6
1974	447.8	470.5	456.1	477.1	467.4	461.3	438.0	397.5	375.2	346.8	350.4	359.8
1975	401.9	407.1	385.9	384.6	349.0	308.6	288.1	269.0	258.2	254.4	272.4	320.0
1976	349.8	342.8	355.7	390.6	390.8	399.7	395.3	382.6	362.8	382.4	405.0	429.6
1977	453.5	474.6	475.4	472.9	472.0	447.4	412.6	374.0	350.1	345.8	301.1	291.5
1978	315.6	313.1	318.4	357.2	376.0	388.2	372.3	336.5	315.7	332.2	348.4	388.2
1979[2]	405.4	423.7	405.0	427.4	410.1	404.3	388.0	370.2	321.4	297.7	308.1	321.8
1980[2]	305.3	369.7	359.2	336.7	297.5							
1981												

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[1] Includes frozen beef, cured beef, and beef in process of cure. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Mercury

U.S. production of primary mercury increased 3 percent in 1979 to 25,000 flasks valued at $6.9 million, according to the Bureau of Mines, U.S. Department of the Interior. Production was reported by one mercury mine in Nevada. By-product mercury continued to be recovered in Nevada.

Secondary production totaled 4,000 flasks, 56 percent above that of 1978. Release of surplus mercury, obtained from the Department of Energy, by the General Services Administration totaled about 12,000 flasks. At year-end, the strategic stockpile contained 191,391 flasks, compared with the stockpile goal of 54,004 flasks.

Consumption was estimated at 45,000 flasks, an 8 percent decrease from the 1978 level. Increases in consumption were reported as follows: measuring and control devices, 43 percent; dental preparation, 32 percent; caustic soda manufacture, 8 percent; and mildew-proofing paint, 22 percent. Usage in wiring devices and switches fell 16 percent.

Imports for consumption fell 19 percent to 35,000 flasks. Spain supplied 40 percent; Canada, 20 percent; Japan, 12 percent; Italy, 11 percent; and Turkey, 9 percent of the imports. Smaller quantities were imported from Mexico, the Dominican Republic, Japan, the Netherlands, and Mainland China. Exports in 1979 were unchanged from 1978 levels.

Stocks held by consumers and dealers declined 20 percent to 18,000 flasks while producer stocks by year-end had recorded a 50 percent gain to 8,500 flasks.

Higher prices were recorded in 1979. The average price in New York was $275 per flask, compared with $153.32 in 1978.

World production was estimated at 190,000 flasks, virtually the same as in 1978. Producers in Italy, Spain, and the U.S.S.R. reportedly continued to restrict sales of mercury in 1979, while Italian, Mexican, and Canadian mining operations continued to be sharply curtailed.

Environmental factors are expected to continue to dampen growth in consumption, especially in paints, agriculture, pharmaceuticals, and the chlor-alkali industry.

There are few satisfactory substitutes for mercury in electrical apparatus and industrial and control instruments, the metal's principal uses.

World Production of Mercury In Flasks of 34.5 Kilograms (76 Pounds)

Year	Yugoslavia	Peru	Philippines	Chile	China[1]	Canada	Turkey	Italy	Japan	Mexico	Spain	Algeria	United States	U.S.S.R.[1]	World Total
1967	15,890	3,135	2,611	184	20,000	—	4,147	48,066	4,617	14,417	49,227		23,784	45,000	232,073
1968	14,794	3,132	3,544	513	20,000	5,700	4,670	53,317	5,084	17,202	56,943		28,874	45,000	259,694
1969	14,330	3,592	3,478	286	20,000	21,200	6,544	48,733	5,613	22,500	64,862		29,640	47,000	289,267
1970	15,461	3,196	4,648	388	20,000	24,400	8,592	44,470	5,170	30,256	45,552		27,296	48,000	284,014
1971	16,593	3,462	5,020	502	26,000	18,500	10,460	42,613	5,564	35,390	50,831		17,883	50,000	300,634
1972	16,419	4,550	3,341	640	26,000	14,637	7,963	41,801	5,019	22,510	53,994		7,349	50,000	278,968
1973	15,606	3,581	2,169	798	26,000	12,500	7,861	33,504	3,742	21,646	62,069		2,227	52,000	270,014
1974	15,838	3,252	812	921	26,000	14,000	8,833	25,991	1,409	25,933	54,354	14,000	2,189	54,000	257,477
1975	16,941	1,530	244	97	26,000	12,000	5,421	31,677	—	14,214	44,010	28,000	7,366	55,000	252,329
1976	12,503	—	—	13	26,000	—	4,529	22,278	—	15,026	44,000	31,000	23,133	56,000	239,994
1977[2]	N.A.	—	—	—	20,000	—	4,300	—	—	15,230	37,700	26,000	28,244	58,000	198,879
1978[2]										15,000	35,000	25,000	24,163		189,163
1979[1]										15,000	35,000	25,000	25,000		190,000
1980															

[1] Estimate. [2] Preliminary. *Source: Bureau of Mines*

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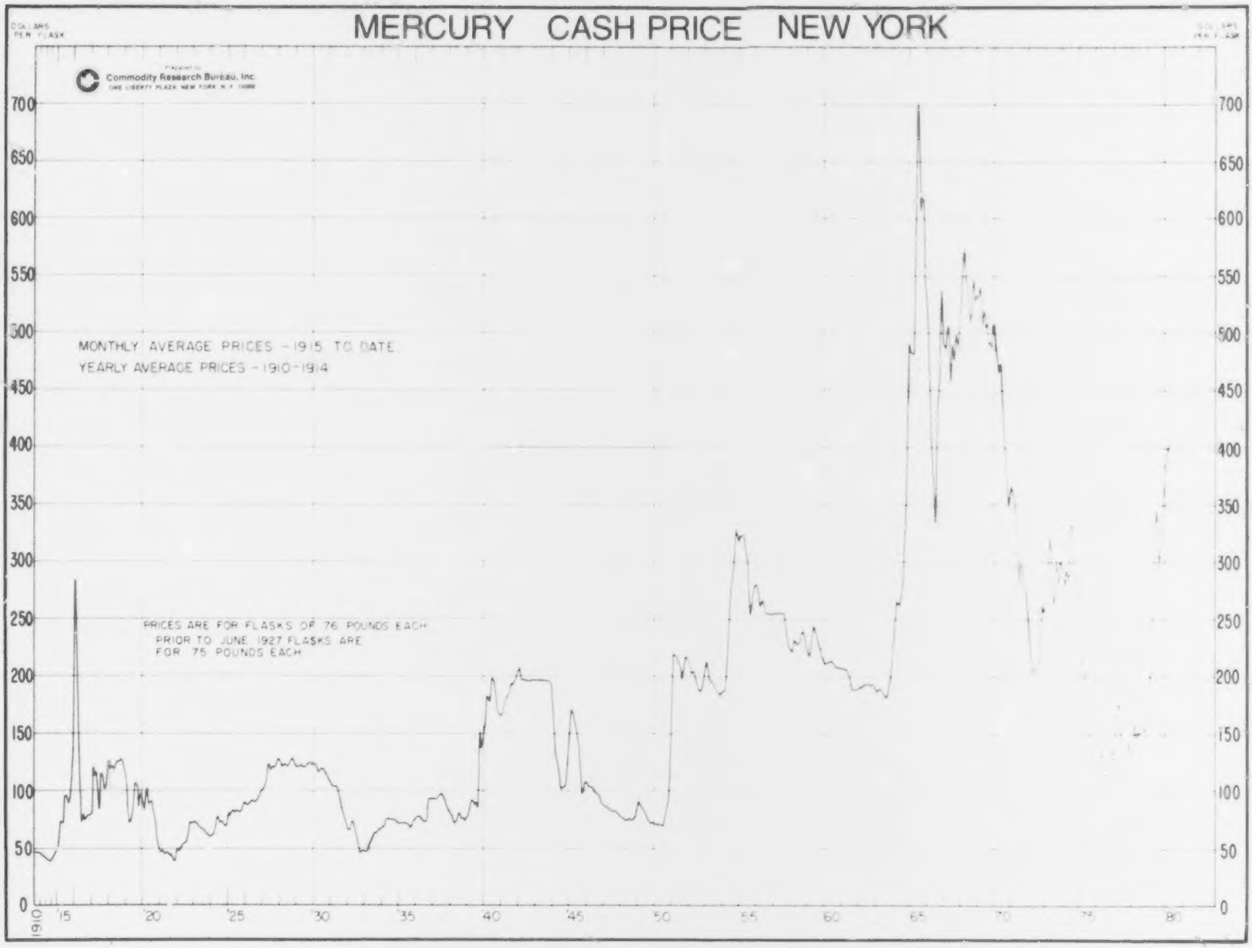


Average Price of Mercury in New York In Dollars Per Flask of 76 Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Average
1967	486.67	501.72	506.00	487.70	457.27	488.41	476.20	483.56	499.40	487.73	498.25	512.70	490.47
1968	531.09	566.21	571.90	547.14	543.18	519.75	509.77	516.27	540.70	547.83	527.33	531.14	537.69
1969	530.86	539.79	529.62	506.52	518.81	503.24	508.48	489.29	491.43	486.83	507.94	505.95	509.90
1970	489.09	469.33	464.52	472.54	455.15	423.18	418.18	381.67	366.90	350.45	360.56	366.14	418.14
1971	357.25	353.21	340.43	323.09	301.00	275.68	299.76	295.00	288.09	280.79	269.00	252.10	302.95
1972	222.14	216.00	205.35	203.05	170.95	205.86	213.00	239.04	262.50	256.30	259.00	267.80	226.76
1973	284.59	303.10	320.13	305.81	273.49	262.50	273.95	301.83	280.79	293.45	301.83	293.83	291.27
1974	282.84	279.05	292.07	285.82	288.32	333.35	328.56	296.09	290.00	281.52	270.50	270.50	291.55
1975	223.05	212.50	212.50	202.84	170.00	170.00	149.09	141.00	137.50	131.91	130.00	121.50	166.82
1976	120.55	126.63	127.87	131.64	125.70	113.50	113.50	113.77	120.60	132.17	133.08	132.00	124.25
1977	137.02	168.03	173.50	150.38	135.79	120.68	122.26	123.54	137.57	142.76	135.80	129.12	139.70
1978	143.29	160.58	147.57	147.08	151.98	149.55	157.11	157.00	151.67	152.34	154.55	170.55	153.60
1979	190.80	202.63	224.32	255.00	300.55	343.90	322.34	300.33	313.16	324.13	328.63	362.08	288.99
1980	383.75	399.90	396.76	406.81									
1981													

Source: American Metal Market

MERCURY

Average Price of Mercury at London In U.S. Dollars Per Flask

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1968	536.0	597.5	587.9	566.8	561.5	524.6	518.6	523.7	540.8	545.3	532.6	526.9	546.80
1969	532.3	533.3	533.3	533.7	532.2	532.9	533.1	531.9	524.5	526.3	560.1	563.4	536.41
1970	494.3	460.1	464.0	464.0	439.3	414.3	413.0	370.3	355.7	346.2	359.4	358.5	411.45
1971	359.8	359.6	335.8	316.6	285.9	251.1	278.7	255.4	256.0	244.2	233.9	210.2	282.46
1972	208.1	198.8	173.4	141.4	153.3	177.4	191.1	222.5	241.1	237.8	242.8	248.5	203.01
1973	260.7	289.4	303.9	283.0	257.8	243.7	263.4	274.8	266.2	270.7	286.6	282.3	273.54
1974	266.7	269.5	270.3	268.0	274.4	315.6	304.5	274.7	272.2	259.6	245.5	194.4	267.94
1975	183.75	194.69	170.00	141.75	137.06	127.50	114.69	114.67	111.69	103.07	84.08	78.28	130.10
1976	81.38	94.51	99.06	99.63	82.00	82.50	83.25	83.25	87.75	100.23	101.67	108.38	91.07
1977	145.79	165.64	184.44	159.32	138.28	122.79	118.58	122.82	130.63	136.34	126.43	137.32	140.70
1978	131.21	130.50	130.10	132.50	131.25	124.83	127.71	128.00	127.29	126.17	137.38	151.86	131.57
1979													250.00

Source: U.S. Bureau of Mines

Salient Statistics of Mercury in the United States In Flasks (76 Pounds Each)

Year	Ore Treated (1,000 Short Tons)	Mercury Produced[2]		Production		Stocks, Dec. 31			Ex-ports	U.S. Imports (For Consumption) From:					
		Flasks	Pounds Per Ton of Ore	Mine	Second-ary	Pro-ducers	Consumers & Dealers	Total		Total	Canada	Italy	Mex-ico	Spain	Yugo-slavia
1967	439.8	23,767	4.1	23,784	22,150	757	17,520	18,277	2,627	24,348	391	4,091	1,234	13,470	3,085
1968	434.2	28,857	5.1	28,874	34,380	1,059	21,848	22,907	7,496	23,246	5,626	252	1,928	12,900	1,171
1969	432.6	28,552	5.0	29,640	13,650	2,920	19,772	22,692	507	31,924	15,546	5,041	7,398	2,602	831
1970	424.5	26,795	4.8	27,296	8,051	3,861	12,693	16,554	4,653	21,972	17,872	1,101	920	2,002	—
1971	265.8	17,444	5.0	17,883	16,666	5,373	11,489	16,862	7,232	28,449	18,198	250	4,786	2,152	420
1972	82.6	7,004	6.5	7,349	12,651	4,171	11,537	15,708	400	28,834	13,803	—	5,529	1,829	1,097
1973	26.3	2,101	6.1	2,227	10,329	3,927	14,019	17,946	342	46,026	17,440	1,005	2,775	7,286	3,648
1974	28.9	1,680	4.4	2,189	8,293	4,100	15,777	19,877	466	52,180	16,972	845	10,597	6,293	4,245
1975	76.8	6,905	6.8	7,366	8,038	4,858	20,691	25,549	339	43,865	12,891	7,340	2,213	4,575	4,336
1976	185.1	23,042	9.5	23,133	3,363	9,494	22,240	31,734	501	44,415	2,853	13,172	1,719	4,824	6,739
1977[1]	216.6	28,244	9.9	28,244	6,566	11,275	22,903	34,178	910	28,750	1,561	671	4,668	8,790	3,050
1978[3]				24,163	9,262	17,075	22,149	40,690	1,000	43,148	894	5,913	813	14,423	—
1979[3]				29,343	15,587		19,114		1,000	28,818	3,943	5,369	403	8,356	—
1980															

[1] Preliminary. [2] Excludes mercury produced from placer operation & from clean-up activity at furnaces & other plants. [3] Estimate. *Source: Bureau of Mines*

Mercury Consumed in the United States In Flasks

Year	Agri-culture	Amal-gama-tion	Catal-ysts	Dental Prep	Elec-trical Appar.	Electro-lytic Prep.	General Lab. Use	Indus-trial & Control Instrum.	Paint		Paper & Pulp Mfg.	Pharm-aceut-icals	Other	Grand Total
									Anti-Fouling	Mildew Proofing				
1967	3,732	219	2,489	2,386	16,223	14,306	1,940	7,459	152	7,026	446	283	12,856	69,517
1968	3,430	267	1,914	3,079	19,630	17,453	1,989	7,978	392	10,174	417	424	8,275	75,422
1969	2,689	195	2,958	2,880	18,490	20,720	1,936	6,655	244	9,486	558	712	9,134	77,372
1970	1,811	219	2,238	2,286	15,952	15,011	1,806	4,832	198	10,149	226	690	5,858	61,503
1971	1,477	—	1,012	2,361	16,885	12,154	1,798	4,871	414	8,191	2	682	2,407	52,257
1972	1,836	—	800	2,983	15,553	11,519	594	6,541	32	8,190	1	578	4,258	52,907
1973	1,830	—	673	2,679	18,000	13,070	658	7,155	32	7,571	—	606	1,913	54,283
1974	980	—	1,298	3,024	19,678	16,897	476	6,202	6	6,807	—	597	2,452	59,479
1975	600	7	838	2,340	16,971	15,222	335	4,598	—	6,928	—	445	1,750	50,838
1976	607	11	1,264	1,990	27,498	16,054	595	5,067	—	7,845	—	60	2,909	64,870
1977[1]	584	N.A.	1,545	1,230	29,180	10,744	406	5,221	—	8,365	—	N.A.	2,589	61,259
1978[2]			444		10,897	11,320	265	4,078		6,864			11,763	48,766
1979[2]			581	883	7,719	12,211	181	3,602		6,591				41,990
1980														

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

Milk

Total U.S. milk output increased 1.7 percent in 1979 to 123.6 billion pounds, the largest annual production since 1965. The increase from 121.6 billion pounds in 1978 reflected a 2.3 percent increase in output per cow, which more than offset a 0.6 percent decline in average cow numbers. As milk-feed price ratios were advantageous, farmers fed 6½ percent more concentrate rations in the second half of 1979, and the large number of replacement heifers that came into production in 1978 approached full productivity in 1979.

All five major milk-producing states (California, Wisconsin, New York, Pennsylvania and Minnesota, which together account for 50 percent of U.S. production) posted increases in 1979, and the expansion was expected to continue through much of 1980. Milk-feed price relationships were expected to continue to be advantageous, encouraging heavier concentrate ration feeding. Though non-feed production costs, especially for energy, were expected to increase substantially, overall economic conditions were expected to be favorable for milk producers.

The dairy replacement herd totaled 4.2 million heifers on January 1, 1980, up about 6 percent from 3.9 million head a year earlier. There were 38½ heifers per 100 cows in the milking herd, the largest ratio ever for that date. This was expected to temper the long term decline in the dairy herd; in fact, cow numbers were considered likely to increase during the second half of 1980, as they did during both 1978 and 1979.

Consumption Trends

Commercial disappearance of milk and dairy products rose to an all-time high of 120.3 billion pounds (milk equivalent) in 1979, up 1.2 percent from 1978 use. Larger sales of cheese boosted the total. However, prospects that the record would be matched or broken in 1980 were uncertain. Inflation was expected to limit gains in consumer purchasing power, while the prices of such alternative protein sources as pork, poultry and eggs were expected to be below year-earlier levels in 1980. Higher energy costs were expected to reduce away-from-home eating in 1980, decreasing demand for butter and cheese by the restaurant industry but possibly increasing demand for fluid milk, which is thought to be more of an "at-home" drink.

Commercial use of American and other types of cheese rose by 2.2 percent and 4.2 percent, respectively, in 1979, while butter sales declined about 1 percent and nonfat dry milk use fell 8½ percent. Fluid milk sales were virtually unchanged from 1978 levels, but the proportion of lowfat and skim milk in the sales mix continued to increase.

Per capita civilian consumption rose by 5 pounds during 1979 to 561 pounds (milk equivalent, fat solids basis). Americans consumed an average of 20.6 pounds of milkfat, up from 20.4 pounds in 1978. Larger consumption of butter and cheese offset decreased milkfat use in fluid milk. Per capita cheese consumption rose 3 percent, while butter consumption increased 2 percent to 4.6 pounds and nonfat dry milk use rose 3 percent to 3.3 pounds. Larger USDA donations to feeding programs accounted for the increased per capita use of butter and nonfat dried milk. Per capita use of lowfat milk, lowfat cottage cheese, ice cream and condensed milk increased. Consumption of whole milk, creamed cottage cheese, ice milk and sherbet declined. Substantially higher purchases under the USDA's price-support program were expected in 1980.

Federal Milk Order Markets

Almost 116,500 producers delivered 79.4 billion pounds of milk—about two-thirds of the milk marketed in the U.S.—to handlers regulated under the 47 Federal Milk Marketing Orders in effect in 1979. Daily deliveries per producer averaged 1,869 pounds in 1979, an increase of .43 percent from 1978 figures that more than offset a decline of nearly 3,000 producers from 1978 to 1979. During the fourth quarter of 1979, the number of producers entering federal order markets was larger than the number leaving, thus moderating the decline in producer numbers.

Producer milk sold for fluid use (Class I milk) totaled 41 billion pounds, 0.3 percent less than in 1978. Combined with the increase in producer deliveries, this resulted in the Class I utilization percentage declining to 52 percent from the previous year's 53 percent. Manufactured products use (Class II) utilized 48 percent.

Class I prices are the minimums that handlers must pay for Grade A milk used as a fluid beverage under a federal milk marketing order program. Class I minimums are set at a fixed premium in each market order to the Grade B (manufacturing use only) price paid in the Minnesota-Wisconsin area as reported by the USDA (the M-W price). In each federal order, the total revenue from fluid sales at the higher Class I price and sales of surplus Grade A milk at the lower Class II price are pooled and distributed back to producers as a blend price. Thus, the Federal Milk Market Orders price milk according to its end use, and producers in each order are paid the same average price according to each market order's Class I and II utilization.

The producer blend price in 1979 averaged $11.97 per cwt., 3.5 percent butterfat (BF), up from $10.56 in 1978 because of increases in the M-W price, basically caused by increases in the support price. The minimum Class I price in the federal order markets averaged $12.88 per cwt., 3.5 percent BF, in 1979, $1.48 per cwt. above the 1978 average.

1980 Government Support Program

Legislation enacted in November 1979 extended the provisions of the Food and Agriculture Act of 1977 that require the USDA to adjust the milk support price semi-annually. The support price is achieved through CCC purchases of butter, cheese, and non-fat dry milk. The support price was increased on April 1, 1980 from $11.22 per cwt. to $12.07 per cwt. at 3.5 percent BF.

MILK

World Fluid Milk Production (Cow's Milk) In Millions of Metric Tons[3]

Year	Australia	Brazil	Canada	Czechoslovakia	Denmark	Finland	W. Germany	U.S.S.R.	India	Netherlands	New Zealand	France	Poland	Switzerland	United Kingdom	United States
1967	16.2	15.2	18.2	9.6	11.4	7.6	47.9	158.6	*1967-*	16.6	14.0	64.7	*1967-*	7.2	25.8	118.8
1968	15.3	14.8	18.3	10.1	11.3	7.7	48.8	162.9	*71*	17.0	13.1	67.1	*71*	7.1	26.5	117.3
1969	16.6	16.3	18.7	10.5	10.8	7.7	49.0	178.4	*Avg.*	17.6	13.9	61.0	*Avg*	7.0	26.8	116.3
1970	17.0	17.0	18.3	10.6	10.2	7.2	48.2	181.4	*(21.2*	18.2	13.0	60.1	*(14.8*	6.9	27.3	117.0
1971	16.1	16.3	17.8	10.9	10.0	7.2	46.7	183.4	*M.T.)*	18.5	13.1	60.9	*M.T.)*	7.0	28.0	118.5
1972[3]	7.3	7.5	8.0	5.0	4.8	3.3	21.5	83.2	22.7	9.0	6.2	29.9	15.9	3.2	13.4	54.3
1973	7.3	7.2	7.7	5.3	4.7	3.2	21.3	88.3	23.1	9.4	6.0	30.4	16.6	3.3	14.3	52.4
1974	7.0	8.5	7.6	5.3	4.8	3.1	21.5	91.8	23.7	9.9	5.7	30.6	17.0	3.4	13.7	52.4
1975	6.7	8.8	7.7	5.3	4.9	3.2	21.6	90.8	24.0	10.2	5.9	30.9	16.7	3.4	13.5	52.3
1976	6.4	9.3	7.7	5.2	5.0	3.3	22.2	89.2	24.3	10.5	6.4	30.8	16.9	3.5	13.5	54.6
1977	5.9	9.5	7.7	5.4	5.1	3.2	22.5	94.7	24.4	10.6	6.6	31.5	17.3	3.5	14.5	55.7
1978[1]	5.3	10.8	7.4	5.5	5.3	3.2	23.3	94.5	25.0	11.4	6.1	31.7	17.4	3.5	15.2	55.3
1979[2]	5.9	10.8	7.6	5.4	5.4	3.3	23.5	91.5	25.7	11.6	6.6	32.2	17.4	3.6	15.7	56.0
1980																

[1] Preliminary. [2] Estimate. [3] Data prior to 1972 are in BILLIONS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*

Milk Cows & Cattle and Milk Production in the U.S.

Year	Number of Milk Cows on Farms[2] (Thousands)	Production Per Milk Cow[3]		Total Milk Production[3]			Milk Sold to Plants & Dealers		Milk Sold Directly to Consumers		Milk Utilized Bill. Lbs.	Farm Value of All Milk Mill. $
		Milk Pounds	Milk Fat Pounds	Quantity Billion Pounds	% of Fat in All Milk Produced	Milk Fat Bill. Lbs.	Quantity Billion Pounds	$ Per 100 Lbs.	Quantity Million Quarts	¢ Per Quart		
1967	13,415	8,851	327	118.7	3.69	4.4	109.4	5.01	819.2	24.0	113.6	6,006
1968	12,832	9,135	335	117.2	3.67	4.3	108.8	5.24	826.8	24.8	112.6	6,206
1969	12,307	9,434	346	116.1	3.67	4.3	108.5	5.49	785.0	25.8	111.8	6,435
1970	12,000	9,751	357	117.0	3.66	4.3	110.1	5.71	798.6	27.0	113.0	6,757
1971	11,839	10,015	367	118.6	3.66	4.3	112.2	5.87	731.2	27.9	114.8	7,035
1972	11,700	10,259	377	120.0	3.68	4.4	114.2	6.07	714.8	27.8	116.3	7,361
1973	11,413	10,119	370	115.5	3.66	4.2	109.9	7.14	706.9	31.0	112.0	8,331
1974	11,230	10,293	377	115.6	3.67	4.2	110.4	8.33	718.0	34.9	112.3	9,723
1975	11,143	10,350	380	115.3	3.68	4.2	110.4	8.75	726.8	35.4	112.1	10,193
1976	11,055	10,879	399	120.3	3.66	4.4	115.6	9.66	704.5	36.4	117.3	11,715
1977	10,974	11,181	409	122.7	3.65	4.5	118.2	9.72	696.6	36.7	119.9	12,028
1978[1]	10,841	11,218	412	121.6	3.67	4.5	117.6	10.58	703.0	38.8	119.3	13,004
1979[1]	10,777	11,471		123.6				12.04			121.1	
1980												

[1] Preliminary. [2] Average number on farms during year excluding heifers not yet fresh. [3] Excludes milk sucked by calves & milk produced by cows not on farms. *Source: Crop Reporting Board, U.S.D.A.*

Utilization of Milk in the United States In Millions of Pounds (Milk Equivalent)

Year	Butter from Whey Cream	Creamery Butter[1]	Cheese[6]	Cottage Cheese (Creamed)	Condensed Whole Milk	Evaporated Milk[5]	Dry Whole Milk Products	Frozen Dairy Products[2]	Fluid Consumption		Fed to Calves	Other Mfg. Products[4]
									Nonfarm	Farm[5]		
1967	1,457	26,106	17,208	1,050	785	3,228	547	10,538	54,000	2,865	1,891	308
1968	1,481	24,912	17,376	1,094	838	3,046	589	10,979	53,700	2,616	1,821	396
1969	1,510	23,731	17,616	1,150	714	3,163	489	11,028	52,800	2,397	1,745	424
1970	1,659	23,934	19,566	1,250	572	2,687	508	11,041	51,998	2,306	1,702	480
1971	1,820	23,904	20,947	1,296	537	2,702	535	10,973	51,853	2,117	1,635	705
1972	1,981	22,744	22,763	1,321	594	2,540	552	10,951	53,227	1,914	1,624	762
1973	2,054	18,609	23,605	1,138	560	2,375	577	11,070	52,413	1,766	1,584	744
1974	2,237	19,334	25,669	1,018	592	2,223	499	11,188	50,414	1,643	1,558	804
1975	2,119	19,873	23,883	1,028	686	2,020	464	11,898	51,123	1,505	1,567	672
1976	2,543	19,404	28,763	1,050	643	1,892	554	11,623	51,505	1,404	1,562	744
1977	2,535	21,853	28,858	1,055	545	1,809	514	11,547	51,383	1,295	1,548	682
1978[3]	2,619	19,825	30,143	1,052	539	1,755	540	11,985	51,196	1,166	1,488	689
1979[7]		20,200	32,300	1,100	—2,400—		600	11,700	50,000			700
1980												

[1] Excludes whey butter. [2] From milk and cream only. [3] Preliminary. [4] Includes dry cream, malted milk, dry part skim milk, dry ice cream mix. [5] Data includes evaporated & sweetened condensed milk. [6] American & other. [7] Estimate. *Source: Crop Reporting Board, U.S.D.A.*

Milk Production on Farms in the United States In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	9,804	9,158	10,406	10,668	11,353	11,033	10,326	9,688	9,115	9,166	8,777	9,238	118,732
1968	9,497	9,194	10,191	10,445	11,217	10,777	10,190	9,612	9,088	9,123	8,742	9,149	117,225
1969	9,408	8,834	10,015	10,237	11,038	10,710	10,121	9,643	9,143	9,091	8,669	9,199	116,108
1970	9,405	8,857	10,103	10,295	11,053	10,708	10,212	9,734	9,203	9,278	8,837	9,321	117,007
1971	9,576	8,994	10,220	10,423	11,159	10,815	10,285	9,860	9,328	9,444	9,004	9,427	118,532
1972	9,728	9,391	10,452	10,566	11,268	10,946	10,442	9,978	9,431	9,437	8,911	9,362	119,904
1973	9,532	8,932	10,176	10,298	10,952	10,532	10,014	9,489	8,877	8,948	8,590	9,052	115,385
1974	9,335	8,755	9,993	10,126	10,865	10,614	10,169	9,710	9,136	9,091	8,658	9,103	115,553
1975	9,341	8,756	9,978	10,088	10,773	10,444	9,969	9,546	9,072	9,186	8,833	9,343	115,326
1976	9,600	9,290	10,281	10,464	11,110	10,806	10,444	10,129	9,607	9,626	9,231	9,681	120,269
1977	9,887	9,301	10,572	10,725	11,354	10,989	10,671	10,363	9,820	9,838	9,391	9,787	122,698
1978	9,972	9,259	10,501	10,614	11,161	10,851	10,516	10,188	9,702	9,795	9,333	9,717	121,609
1979[1]	10,004	9,317	10,526	10,600	11,226	10,973	10,698	10,439	10,014	10,108	9,657	10,061	123,623
1980[1]	10,260	9,917	10,881										

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Average Price Received by U.S. Farmers for All Milk[2] In Dollars Per 100 Pounds (CWT.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
1967	4.97	4.99	5.03	5.09	5.23	5.19	5.10	5.06	5.00	4.91	4.92	4.95	5.02
1968	5.06	5.08	5.12	5.33	5.49	5.46	5.34	5.30	5.25	5.26	5.26	5.29	5.24
1969	5.33	5.34	5.42	5.51	5.66	5.64	5.49	5.44	5.46	5.47	5.48	5.56	5.49
1970	5.59	5.58	5.61	5.82	5.93	5.93	5.69	5.64	5.61	5.68	5.75	5.84	5.71
1971	5.79	5.85	5.89	5.96	6.03	5.92	5.84	5.81	5.75	6.07	5.82	5.93	5.87
1972	5.95	6.04	6.07	6.09	6.23	6.14	6.02	6.06	5.97	6.02	6.15	6.29	6.07
1973	6.36	6.50	6.59	6.67	6.88	6.88	6.83	7.26	7.54	7.83	8.16	8.47	7.14
1974	8.63	8.83	9.03	9.22	8.89	8.25	7.92	7.77	7.72	7.81	7.96	7.93	8.33
1975	8.13	8.24	8.26	8.48	8.63	8.57	8.78	9.00	9.16	9.42	9.51	9.81	8.75
1976[3]	9.81	9.41	9.62	9.56	9.64	9.83	10.03	10.10	9.74	9.67	9.42	9.26	9.66
1977[3]	9.28	9.17	9.34	9.62	9.76	10.11	10.10	10.06	9.87	9.81	9.71	9.71	9.72
1978[3]	9.81	9.81	10.10	10.31	10.42	10.75	10.63	10.71	10.79	10.87	11.05	11.35	10.58
1979[3]	11.55	11.67	11.80	11.84	11.98	12.23	12.21	12.24	12.28	12.12	12.29	12.31	12.04
1980	12.43	12.55	12.70	12.96									

[1] Weighted average. [2] Adjusted for seasonal variation. [3] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Farm Price of Milk[1] Eligible for Fluid Market[2] In Dollars Per Hundred Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	6.15	6.14	6.02	6.02	6.11	6.17	6.17	6.18	6.28	6.30	6.31	6.33	6.20
1968	6.35	6.36	6.35	6.35	6.52	6.53	6.58	6.59	6.64	6.61	6.61	6.61	6.50
1969	6.62	6.62	6.63	6.62	6.65	6.65	6.67	6.71	6.77	6.80	6.86	6.92	6.70
1970	6.91	6.94	6.89	6.88	6.89	6.88	6.90	6.90	6.92	6.98	7.05	7.09	6.94
1971	7.10	7.07	7.12	7.11	7.14	7.11	7.11	7.11	7.11	7.14	7.14	7.14	7.12
1972[2]	6.42	6.43	6.31	6.13	6.07	5.99	6.09	6.32	6.57	6.72	7.34	7.39	6.38
1973	6.84	6.90	6.83	6.68	6.67	6.68	6.85	7.45	8.13	8.55	8.89	9.02	7.42
1974	9.09	9.13	9.19	9.16	8.68	8.10	8.00	8.11	8.40	8.67	8.83	8.63	8.66
1975	8.77	8.70	8.51	8.46	8.33	8.24	8.51	8.89	9.49	9.91	10.20	10.50	9.02
1976	10.40	10.10	10.00	9.63	9.49	9.36	9.64	9.91	10.10	10.30	10.20	9.99	9.93
1977	9.91	9.79	9.67	9.63	9.56	9.61	9.72	9.91	10.20	10.40	10.50	10.40	9.96
1978	10.50	10.50	10.40	10.30	10.30	10.20	10.30	10.70	11.00	11.50	11.80	12.00	10.80
1979	12.10	12.10	12.00	11.80	11.70	11.70	11.80	12.00	12.50	12.80	13.10	13.00	12.23
1980	13.00	13.00	12.90	12.90									

[1] MILK, Standard Grade, 3.5% milkfat. Weighted average price per 100 pounds (f.o.b. city). [2] Prices prior to 1972 are dealers' avg. buying prices for fluid milk. *Source: Crop Reporting Board, U.S.D.A.*

MILK

U.S. Production of Condensed & Evaporated[2] Milk, Unskimmed (Case Goods) In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	104.6	103.6	120.8	148.6	170.3	172.0	152.6	139.6	110.6	95.6	83.7	91.0	1,493
1968	87.0	84.8	96.3	126.7	148.5	141.1	137.7	130.6	107.2	101.4	88.7	109.9	1,360
1969[2]	100.4	101.3	113.1	144.7	166.0	154.4	147.2	142.7	109.8	102.3	89.5	112.4	1,484
1970	101.3	93.3	107.0	111.1	133.7	142.0	117.7	109.9	92.4	85.4	77.9	96.5	1,268
1971	87.8	94.2	113.9	123.8	140.6	142.3	117.9	105.6	83.3	83.8	81.5	93.3	1,268
1972	87.5	86.9	108.5	105.2	125.7	121.6	112.5	109.1	88.3	83.6	72.2	82.2	1,183
1973	77.4	75.0	93.4	103.4	118.7	115.5	100.6	96.9	80.2	80.2	72.4	88.3	1,102
1974	89.5	87.7	93.3	101.1	108.6	102.7	102.7	84.8	65.2	60.9	60.8	78.1	1,035
1975	73.1	67.3	72.9	77.1	94.7	95.7	87.1	78.1	70.3	67.2	65.0	78.5	927
1976	74.3	71.4	83.2	90.4	96.6	92.3	84.9	73.4	61.1	56.6	50.2	61.3	895
1977[1]	61.8	63.9	72.1	82.2	86.6	81.9	77.9	73.4	59.7	53.5	47.1	58.8	819
1978[1]	56.1	52.1	67.3	68.9	82.8	81.3	74.3	69.0	59.0	60.7	53.5	60.6	788
1979[1]	58.0	56.8	63.0	72.0	80.6	80.2	70.7	66.7	62.9	59.4	59.0	58.5	788
1980[1]	59.8	58.3											
1981													

[1] Preliminary. [2] Evaporated milk only prior to Jan. 1969 *Source: Department of Agriculture*

U.S. Manufacturers' Stocks of Evaporated[1] (Unsweetened) & Condensed Whole Milk
In Millions of Pounds (Case Goods)

Year	Jan. 1	Feb.1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	192.9	150.0	119.6	81.9	124.0	174.2	228.6	266.8	281.8	292.2	265.3	219.2
1968[1]	196.0	147.6	112.2	86.3	65.0	108.9	153.8	182.9	195.8	194.7	163.6	127.1
1969	101.3	59.6	43.1	57.2	86.4	129.1	155.5	191.8	215.1	197.6	150.6	115.8
1970	106.9	96.6	85.1	88.4	79.6	130.2	173.2	192.7	199.7	191.1	180.0	147.5
1971	115.7	81.3	69.4	67.6	51.2	104.0	133.8	162.4	172.9	163.0	151.5	111.7
1972	88.6	74.3	64.0	61.2	76.5	108.0	125.0	145.6	140.2	143.8	138.8	104.1
1973	74.7	60.2	55.2	35.6	56.2	85.4	114.1	133.6	67.1	95.6	89.4	75.2
1974	69.2	54.5	57.5	62.2	76.7	110.0	127.4	156.5	167.6	153.5	124.1	101.0
1975	79.2	68.1	61.8	54.3	60.3	84.2	104.0	114.7	105.5	96.6	70.9	63.9
1976	58.6	44.5	49.6	57.4	76.8	104.6	125.4	143.1	136.3	135.2	131.7	96.9
1977[2]	70.6	66.3	63.5	63.0	66.4	101.5	127.7	133.2	158.7	148.6	134.3	101.0
1978[2]	75.2	59.8	52.9	52.1	57.4	79.4	101.4	120.2	134.4	136.0	113.8	84.4
1979[2]	70.3	66.0	56.4	49.6	68.3	90.3	117.1	134.7	131.7	129.2	118.8	88.4
1980[2]	76.7	75.3	73.9									
1981												

[1] Evaporated milk only prior to Jan. 1968. [2] Preliminary. *Source: Department of Agriculture*

Wholesale Price[1] of Evaporated Milk In Dollars Per Case (48-14½ Ounce Cans Per Case)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.06	7.06	7.06	7.06	7.05
1968	7.06	7.06	7.07	7.22	7.29	7.33	7.35	7.36	7.36	7.36	7.36	7.36	7.26
1969	7.40	7.42	7.45	7.50	7.50	7.51	7.51	7.51	7.51	7.53	7.59	7.62	7.50
1970	7.47	7.46	7.47	7.47	7.56	7.62	7.72	7.74	7.96	7.78	7.82	7.83	7.64
1971	7.87	7.84	7.84	7.93	8.08	8.28	8.32	8.29	8.27	8.37	8.26	8.28	8.14
1972	8.32	8.31	8.31	8.38	8.38	8.39	8.38	8.51	8.52	8.61	8.62	8.64	8.45
1973	8.68	8.80	9.20	9.29	9.38	9.44	9.46	9.62	10.01	10.48	10.62	10.62	9.63
1974	11.12	11.36	11.48	11.73	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.93	11.76
1975	11.93	11.93	12.08	12.08	12.08	11.98	12.03	12.08	12.32	12.46	12.62	13.67	12.27
1976	13.39	13.78	13.78	13.78	13.28	13.75	13.79	13.90	13.22	14.40	13.39	13.36	13.67
1977	14.40	13.34	13.62	14.91	15.25	15.25	15.25	15.25	15.25	15.25	15.25	14.17	15.01
1978	15.46	15.46	14.69	16.09	16.29	16.26	16.26	16.26	16.31	16.57	17.01	17.01	16.20
1979	17.01	17.36	17.48	17.49	17.70	17.89	17.90	17.97	18.30	18.54	18.72	18.72	17.92
1980	19.05	19.17	19.20	19.64									
1981													

[1] At Manufacturers' distributing points, U.S. (mid-point of range). *Source: Bureau of Labor Statistics*

Molasses

The USDA's Foreign Agricultural Service revised (as of May 1980) estimate of 1979/80 world production of industrial molasses was 30.2 million tonnes, a reduction of 10 percent from the revised 1978/79 estimate. Production declines were expected for the U.S., Cuba, Brazil, India, Thailand and the U.S.S.R. Production increases were predicted for Mexico, France, and the Philippines. Prospects for world trade in molasses were off, with consumption in major exporting countries increasing. Molasses is used in animal feed, yeast production, distilleries and, increasingly, for production of fuel alcohol.

U.S. imports in calendar 1979 declined over 6 percent from 1978 to 1.48 million tonnes. The U.S. is the largest importer of molasses. Leading exporters to the U.S. in 1979 were, in declining order, Mexico, the Dominican Republic, Brazil, Australia and South Africa. These five countries accounted for 57 percent of U.S. imports, with Mexico accounting for 26 percent. The Gulf ports of New Orleans and Houston continued to be the dominant ports of entry.

Total U.S. supply of molasses for consumption during 1979 was 601 million gallons, down 59 million gallons from 1978. Cane molasses production in the U.S. increased slightly in 1979 while beet molasses production was off 16 percent from 1978.

Molasses prices were up sharply in 1979 with record average prices of $82.95 per ton for blackstrap molasses, f.o.b. tankcar, New Orleans vs $51.50 in 1978 and $85.30 per ton for beet molasses, f.o.b. tankcar, Colorado vs. $60.40 in 1978. Prices continued to increase in early 1980.

World Production of Molasses (Industrial) In Thousands of Metric Tons

Crop Year	Argentina	Brazil	Cuba[2]	France	Germany, West	India	Italy	Mexico	Philippines	Poland	Australia	United Kingdom	United States	U.S.S.R.	World Total
1972–3	478	1,775	1,200	991	629	1,696	370	1,190	836	505	548	322	1,853	3.000	24.425
1973–4	638	2,069	1,312	1,200	669	2,000	250	1,240	1,000	514	599	325	1,596	2,842	26,927
1974–5	612	2,950	1,312	1,179	712	2,000	302	1,227	890	514	586	235	1,592	2,746	26.905
1975–6	557	2,400	1,364	1,013	842	1,700	330	1,227	1,050	642	620	255	1,813	2,735	27,244
1976–7	557	3,000	1,391	1,087	831	2,059	330	1,076	932	670	642	310	1,694	2,700	29,608
1977–8[1]	552	3,440	1,436	1,559	775	2,600	258	1,328	808	673	642	421	1,480	3.242	31,399
1978–9[3]	458	3,072	1,333	1.380	750	2,400	263	1.400	800	653	580	525	1,524	3,306	31,154

[1] Preliminary. [2] Includes hi-test molasses. [3] Estimate. *Source: Foreign Agricultural Service, U.S.D.A*

Salient Statistics of Industrial Molasses in the United States In Millions of Gallons

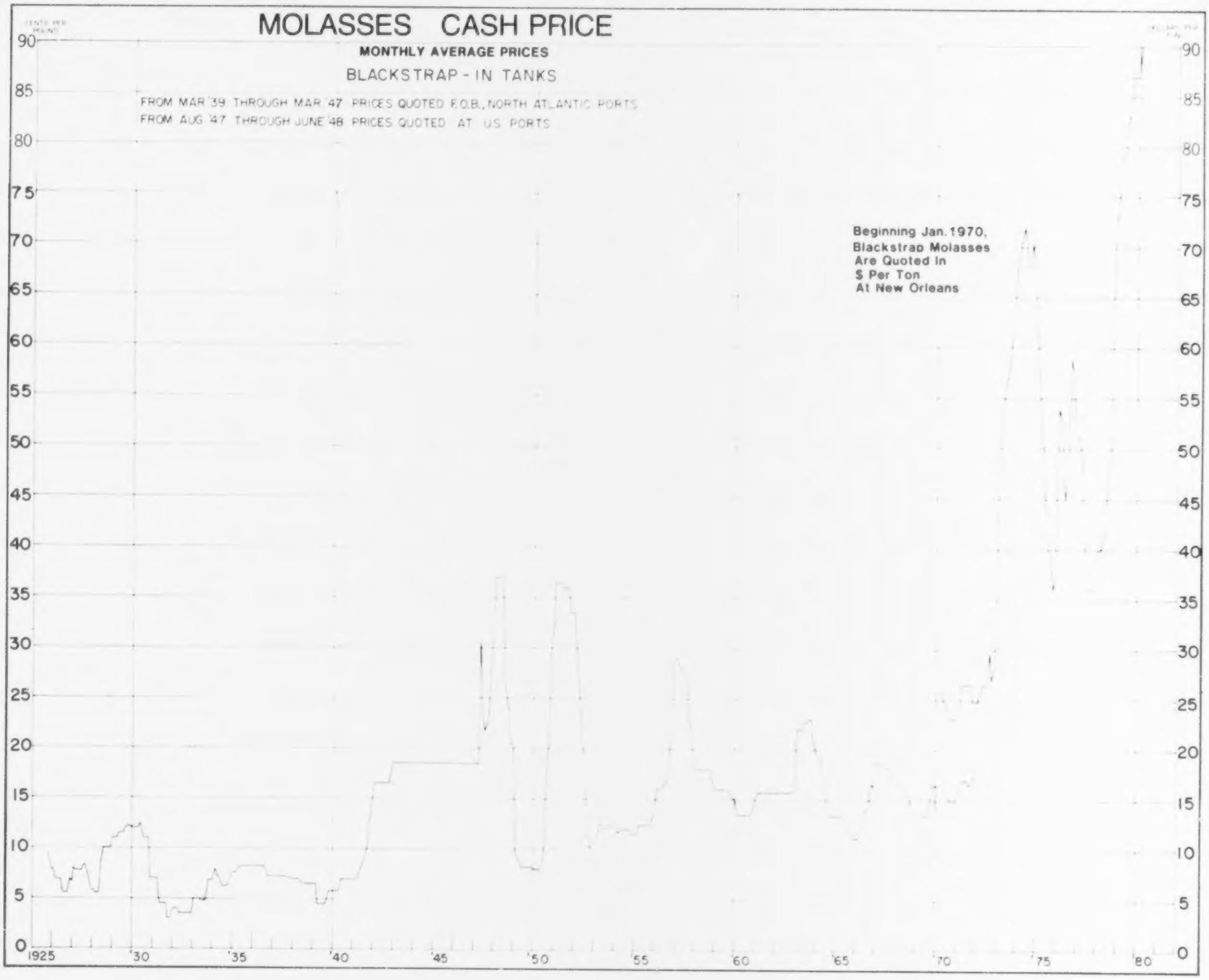
	Production in Mainland Areas									Domestic Utilization					
Year	Mainland Cane	Domestic Beet	Refiners' Blackstrap	Citrus	Hydrol	Total	Imports	Total Available Supplies	Exports	Distilled Spirits	Pharmaceuticals & Other Edibles	Yeast, Citric Acid & Vinegar	Total Industrial	Livestock Feeding[2]	Total Utilization
1972	125.6	166.6	39.1	8.3	22.5	362.1	406.8	828.4	3.1	6	57	99	163	678	844
1973	112.4	158.1	44.9	9.8	23.0	348.2	403.3	797.9	4.7	13	59	100	164	641	814
1974	102.1	155.9	45.0	10.6	23.5	337.1	384.3	755.3	12.6	18	59	100	175	559	739
1975	125.4	188.2	45.0	10.2	24.5	393.3	303.3	739.6	6.3	4	152		156	706	862
1976	131.7	158.0	50.3	5.8	37.0	382.9	411.2	829.7	11.2	7	125		132	670	802
1977[1]	114.7	172.6	50.7	5.2	39.7	382.8	381.2	783.3	22.9	6	115		121	610	731
1978[1]	112.4	160.0	44.6	4.3	38.2	359.4	296.3	687.0	20.3	5	110		115	580	695

[1] Preliminary. [2] Residual. *Source: Agricultural Marketing Service, U.S.D.A.*

U.S. Annual Average Prices of Molasses, by Types (F.O.B. Tank Car or Truck) In Dollars Per Ton

	Blackstrap						Beet Molasses			Citrus Molasses	Corn Molasses
Year & Quarter	New Orleans	South Florida	Baltimore	Minneapolis	Omaha	Calif. Ports	Colorado	Wyo. & Montana	Ore., Utah & Idaho	Florida	Pekin, Ill.
1974	68.37	67.40	72.25	88.63	88.37	70.82	78.65	78.65	71.26	45.81	—
1975	45.32	45.63	51.37	62.75	63.81	50.03	55.80	61.81	59.70	41.97	—
1976	52.07	51.41	57.60	72.28	70.46	52.96	66.87	65.02	61.79	39.52	—
1977	40.62	42.52	47.08	54.62	58.84	42.96	41.76	45.41	55.10	50.65	—
1978	51.31	52.40	59.22	67.30	72.49	54.07	60.18	58.31	61.05	61.10	—
1979[2]											
I	79.00	80.00	87.00	100.75	99.77	81.00	84.00	81.00	69.00	70.00	68.97
II	80.60	81.33	89.03	104.77	103.40	81.80	84.00	81.00	69.00	76.25	61.00
III	85.00	85.25	93.20	109.20	109.10	84.33	84.00	80.28	23.00	78.53	67.75
IV											

[1] Per ton prices are based on 171 gallons for blackstrap, beet and corn molasses and on 175 gallons for citrus molasses. Prices represent sales F.O.B. terminal to the general feed trade and do not include sales made under various pricing arrangements above or below prices generally available to the ultimate user. Ton—2,000 lbs. Gallon—U.S. gallon. Prices are not rounded off to the nearest 5 cents. [2] Estimated. *Source: Molasses Market News, Annual Summary, AMS, U.S.D.A. Denver Colorado, and Molasses Market News, Weekly, various issues*



Wholesale Price of Blackstrap Molasses (Cane) at New Orleans[1] In Dollars Per Ton[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	18.75	18.75	18.75	18.75	18.45	18.25	18.25	18.25	17.69	17.25	17.06	17.00	18.10
1968	17.00	17.00	16.75	16.13	16.00	15.88	15.50	15.50	15.00	14.20	13.38	12.75	15.40
1969	12.50	12.50	13.30	13.50	13.50	13.50	13.50	14.20	15.26	15.96	16.49	16.49	14.22
1970[1]	25.65	25.65	25.65	25.65	24.80	24.80	23.50	23.20	23.10	23.10	23.20	23.10	24.28
1971	24.20	24.60	25.00	26.50	26.50	26.50	26.50	26.50	25.60	25.20	24.80	24.80	25.56
1972	24.80	24.80	26.00	26.50	26.50	26.50	26.60	29.60	26.90	27.40	28.40	32.40	27.20
1973	43.20	48.90	53.40	55.20	56.40	57.00	57.00	60.10	60.80	64.20	65.50	67.75	57.45
1974	68.80	70.50	71.00	72.00	69.50	68.00	68.00	69.25	70.40	67.00	64.00	62.00	68.37
1975	60.00	57.75	51.30	50.00	46.00	43.00	41.00	39.00	38.00	36.00	37.00	46.00	45.42
1976	53.00	54.00	53.00	52.00	45.00	47.00	48.00	54.00	59.00	57.00	52.00	51.00	52.08
1977	51.00	51.00	48.00	42.00	40.00	38.00	36.00	36.00	36.00	36.00	36.00	38.00	40.67
1978	40.00	40.00	40.00	41.00	42.00	46.00	48.00	48.00	56.00	65.00	73.00	73.00	51.08
1979	79.00	79.00	79.00	79.00	81.00	83.00	83.00	85.00	87.00	87.00	87.00	87.00	83.00
1980	90.00	92.00	92.00										

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[1] Data prior to 1970 are for AT NEW YORK, F.O.B. TANK CAR OR TRUCK (BULK)—in CENTS PER GALLON.
Source: Economics Service, U.S.D.A.

Molybdenum

Domestic mine production in 1979 was at a record high of about 143 million pounds, or nearly 9 percent higher than in 1978. However, molybdenum supplies remained tight as world demand continued to grow and probably exceeded world mine output for the seventh consecutive year. Estimated world production of molybdenum (217 million pounds) was little changed from that of 1978 because of labor problems at several Canadian mines, reducing output 10 to 12 million pounds below expected levels.

Reported consumption of molybdenum in the United States was projected to exceed 62 million pounds, about 2 percent above that of 1978. The United States was the chief supplier of molybdenum to the rest of the world, with exports of molybdenum in concentrate and oxide form that represented 48 percent of its domestic mine output.

Total domestic industrial stocks remained at the low levels of the previous 3 years because of the strong worldwide demand. Producer stocks of molybdenum products averaged only about 8 million pounds of molybdenum, or less than a one-month supply when compared with average monthly shipments. Consumer inventories of molybdenum products averaged slightly less than a two-month supply.

The constricted worldwide availability resulted in further price increases, continuing the trend of recent years. Moreover, a two-tiered price system, in which U.S. producers priced materials for export sale above those for domestic sale, became firmly established. For the year, the major U.S. producer raised the domestic price on technical-grade molybdic oxide from $5.55 to $7.50 (all prices per pound of contained molybdenum); the price for export sale increased from $6.56 to $9.54. Other producers generally quoted higher prices throughout the year, with the yearend price of oxide for domestic sale at $9.50 and for export sale over $11. Dealer, or free market, price quotes for oxide ranged from $20 to $30 for most of the year, but fell below $20 towards year-end, when supplies became more plentiful and demand was reported to have slackened somewhat. Numerous consuming firms found it necessary to purchase part of their molybdenum requirements at the higher dealer prices because producers could not satisfy all demand.

World Mine Production of Molybdenum In 1,000 Pounds (Contained Molybdenum)

Year	Canada (Shipments)	Australia	Chile	U.S.S.R.	Japan	South Korea	China	Mexico	Norway	Philippines	United States	Peru	World Total
1968	22,463		8,521		630	423		176	487	139	93,477	1,785	128,071
1969	29,651		10,675	16,700	591	287		445	785	35	99,807	494	159,470
1970	33,772		12,569	17,000	582	254	3,300	311	750	71	111,352	1,338	181,429
1971	22,663		13,935	17,600	613	231	3,300	174	725	9	109,592	1,782	171,064
1972	28,493		13,045	18,100	494	111	3,300	172	562	—	112,138	1,689	178,423
1973	30,391		12,974	18,700	345	112	3,300	90	220	—	115,859	1,395	183,698
1974	30,736		21,466	19,400	235	166	3,300	95	—	—	112,011	1,434	185,568
1975	28,719	25	20,042	20,000	309	166	3,300	37	—	—	105,980	1,435	176,713
1976	32,229	25	24,028	20,600	330	264		35	—	—	113,233	992	191,736
1977[1]	36,225	25	24,250	21,400	330	222		40			122,408	1,021	205,921
1978[2]	31,015		29,092								131,843	1,607	216,520
1979[2]	20,000		30,000								143,271	1,800	216,800

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

Salient Statistics of Molybdenum in the United States In Thousands of Pounds (of Contained Molybdenum)

	Concentrate							Primary Products[3]							
		Shipments						Net Production				Shipments			
Year	Production	Total (Includes Exports)	Value Mill. $	For Exports	Consumption	Imports for Consumption	Stocks Dec. 31 [2]	Grand Total	Molybdic Oxide[4]	Molybdenum Metal Powder	Sodium Molybdate	To Domestic Destinations	For Exports	Consumption	Producers' Stocks Dec. 31
1968	93,477	93,245	151.0	19,790	75,647	1	12,208	69,675	51,504	1,990	965	53,462	10,300	49,271	18,170
1969	99,807	103,009	173.8	29,528	73,275	—	8,398	68,526	51,515	2,314	603	57,947	19,779	51,622	17,844
1970	111,352	110,381	190.1	32,998	76,101	25	9,715	75,383	57,669	1,741	743	58,365	17,730	45,337	25,904
1971	109,592	97,882	164.9	31,513	66,399	854	29,077	67,016	49,918	2,418	865	52,644	14,010	40,950	31,048
1972	112,138	102,197	170.5	34,390	62,560	385	45,243	64,841	47,934	3,637	1,111	59,420	16,118	45,558	28,898
1973	115,859	135,097	217.7	48,529	82,477	458	21,998	85,046	63,280	3,631	1,538	67,365	41,322	57,049	22,387
1974	112,011	118,163	234.7	39,965	91,706	155	18,659	88,509	66,378	2,953	1,784	75,929	38,870	63,476	16,078
1975	105,980	105,170	259.3	36,618	90,046	2,567	10,680	87,501	70,143	2,953	1,069	89,789	33,084	51,743	22,863
1976	113,233	114,527	333.5	30,935	84,966	2,093	9,390	83,970	65,743	3,839	1,132	99,144	31,796	50,448	13,210
1977[1]	122,408	124,974	450.4	29,666	91,041	1,976	9,161	90,520	68,671	4,142	1,275	100,626	33,332	54,557	10,141
1978[5]	131,843	130,694		31,183	96,375	2,705	8,980	96,052	74,804	4,194	1,489	105,921		61,091	7,996
1979[5]	143,271	142,292		37,015	103,152	2,000	9,569	109,419	84,799	4,946	1,546	109,419		62,500	8,502

[1] Preliminary. [2] At mines & at plants making molybdenum products. [3] Comprises ferromolybdenum, molybdic oxide, & molybdenum salts & metal. [4] Includes molybdic oxide briquets, molybdic acid, & molybdenum trioxide. [5] Estimate.
Source: Bureau of Mines

Nickel

Domestic consumption of primary nickel in 1979 was 11 percent higher than in 1978, according to the U.S. Bureau of Mines. Total demand for nickel, including secondary nickel, was estimated to be the third highest on record.

The U.S. continued to rely heavily on imports of nickel in 1979. Net import reliance (imports minus exports plus adjustments for government and industry stock changes) was 77 percent of apparent consumption of nickel in 1979 and 1978. Canada remained the principal supplier of nickel in 1979.

About 47 percent of the nickel consumed in 1979 was accounted for by the production of stainless and alloy steels; 33 percent by nonferrous alloys; and 16 percent by electroplating.

The London Metal Exchange started trading in pure nickel forms in July 1979. (See special article on the London Metal Exchange.)

World Mine Production of Nickel In Thousands of Short Tons of Contained Nickel

Year	Canada	Cuba	Finland[3]	Indonesia	Brazil	Morocco	Rhodesia Southern	N. Caledonia	Greece	Poland	South Africa	U.S.S.R.	United States	World Total
1969	213.6	38.8	4.2	8.4	1.9	.3	4.4	99.7	9.1	1.7	11.0	115.0	15.8	536.6
1970	305.9	38.8	5.8	17.2	3.2	.2	12.0	116.2	9.5	2.2	12.7	120.0	15.9	692.7
1971	294.3	39.0	4.0	21.8	3.5	.2	12.8	112.8	11.8	2.2	14.1	130.0	17.0	699.9
1972	259.0	35.0	5.9	24.7	3.7	.2	13.2	98.0	21.7	1.7	12.8	115.0	16.9	673.8
1973	274.5	35.0	6.6	22.9	3.9	.3	13.0	120.5	28.9	1.7	21.4	125.0	18.3	757.4
1974	296.6	37.4	6.6	23.3	3.9	.6	12.7	148.3	31.4	2.2	24.4	138.0	16.6	849.3
1975	267.0	40.3	6.1	21.2	3.5	.6	11.0	146.9	31.0	2.8	22.9	168.0	17.0	890.5
1976	265.5	40.6	7.2	21.9	5.8	.2	17.6	131.1	30.4	3.1	24.7	176.0	16.5	904.7
1977[1]	259.4	40.8	6.6	15.4	6.1	.2	17.6	120.2	21.0	3.1	25.4	159.0	14.3	851.6
1978[2]	140.5	40.0						72.8					14.4	738.4
1979[2]	130.0	41.0						85.0					14.0	746.0

[1] Preliminary. [2] Estimate. [3] Content of nickel sulfate and concentrates. *Source: Bureau of Mines*

Salient Statistics of Nickel in the United States In Short Tons

Year	Production		Nickel Consumed[1], By Uses								Stocks, Dec. 31		Nickel & Pdt's (Gross Weight)	
	Primary	Secondary	Alloy Steels	Cast Irons	Copper Base Alloys	Magnet Alloys	Electro-Plating Anodes	Nickel Alloys	Stainless & Heat Resisting Steels	Total All	At Consumers' Plants	As Metal	Imports	Exports
1969	15,810	18,775	23.9	5.6	5.5	—	19.2	26.3	39.5	141,737	16,574	12,528	149,704	34,758
1970	15,558	23,159	20.9	4.9	11.6	—	24.6	35.8	40.8	155,719	24,708	17,944	179,163	31,456
1971	15,654	29,657	17.4	4.1	7.9	3.0	30.7	28.1	33.2	128,802	16,005	11,499	142,183	26,143
1972	15,731	35,926	19.6	4.4	8.5	4.2	29.0	28.9	45.4	159,286	26,260	18,516	173,978	21,671
1973	13,895	32,629	44.7	6.8	17.1	10.5	51.1	85.8	137.2	197,723	28,759	11,987	190,418	22,070
1974	14,093	20,930	23.3	5.3	9.3	5.3	26.2	44.1	73.3	208,409	45,291	25,862	220,655	30,442
1975	14,343	17,880	20.3	4.4	9.4	3.3	19.2	37.2	38.2	146,495	35,485	19,702	160,507	30,121
1976	13,869	13,273	19.1	4.0	7.4	5.8	28.7	32.5	48.6	162,927	31,690	18,333	188,147	47,166
1977[2]	12,897	12,349	16.8	2.5	6.3	.7	20.6	30.3	48.0	155,260	18,638	9,846	167,111	39,412
1978[3]	11,800									191,000	20,270		236,700	
1979[3]	12,400		18.4	3.1	7.7	.7	26.5	39.7	63.8	202,000	22,000		195,000	

[1] Exclusive of scrap. [2] Preliminary. [3] Estimate. *Source: Bureau of Mines*

Average Price of Nickel (Spot Cathode Sheets—Duty Paid—F.O.B. Refinery)
In Cents Per Pound—In Carload or Truckload Lots

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	128.0	105.1
1970	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	129.5	133.0	133.0	129.0
1971	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0
1972	133.0	133.0	133.0	133.0	133.0	133.0	133.0	133.0	153.0	153.0	153.0	153.0	139.7
1973	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0	153.0
1974	162.0	162.0	162.0	162.0	162.0	162.0	185.0	185.0	185.0	185.0	185.0	185.0	173.5
1975	201.0	201.0	201.0	201.0	201.0	201.0	201.0	201.0	220.0	220.0	220.0	220.0	207.3
1976	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	220.0	241.0	241.0	241.0	225.3
1977	241.0	241.0	241.0	238.0	241.0	241.0	241.0	241.0	215.5	215.5	210.0	207.0	231.1
1978	207.0	207.0	207.0	210.0	210.0	200.0	208.0	208.0	204.0	202.5	202.5	196.5	205.2
1979	196.5	205.0	205.0	242.5	272.5	305.0	302.5	302.5	302.5	302.5	302.5	315.0	271.2
1980	325.0	325.0											

Source: Bureau of Labor Statistics (1022–0116)

Oats

The 1979 U.S. oat crop was the smallest in this century at 534 million bushels, and oat supply for the 1979/80 season which began June 1, 1979, was about 10 percent smaller than in the previous season.

Domestic disappearance of oats during June–December 1979 was slightly smaller than in the same period of the previous season. The USDA, in April, projected a drop of more than 5 percent in feed use of oats for the entire season. There were slightly fewer milk cows on farms January 1, 1980, than a year earlier. Dairy cattle are a major market for oats, and feed demand from the dairy industry tends to be relatively stable. Non-farm livestock feeding of oats is mainly for horses.

U.S. exports of oats in the 1979/80 marketing season were expected by the USDA to amount to only about 4 million bushels, down from 13 million in the 1978/79 season.

On April 1, 1980, there were 344 million bushels of oats on hand in the U.S. in all positions versus 391 million a year earlier. About 84 percent of total stocks were on farms. As of late April 1980, there were about 33 million bushels of oats in the farmer-owned grain reserve.

The May 31, 1980, carryover of oats in the U.S. was projected at 238 million bushels by the USDA on April 25, up from a previous estimate but below the previous season's carryover of 287 million bushels.

Prospective plantings of oats for the 1980 crop totaled 13.7 million acres, based on April intentions. If realized, this would be the smallest acreage planted since the late 1800s and 3 percent below 1979 acreage.

1980 Government Support Program

The 1980-crop national average loan level for oats is $1.08 per bushel, for oats grading No. 3 or better, up from $1.03 for the 1979 crop.

Support is available through nonrecourse loans and purchases from county ASCS offices through March 31, 1981. Loans mature on demand, but no later than the last day of the 9th calendar month following the month in which the loan is made. Loan rates are established for all counties. The loan rates vary from county to county in relation to cash prices, production, consumption and transportation costs. Oats are not included in the 1980 Feed Grain Program target provisions. There are no set-aside requirements or diversion programs for feed grains, including oats in 1980.

Grain Reserve Program

The release price for oats in the farmer-owned grain reserve (125 percent of the current loan rate) is $1.35 per bushel. Data used by CCC in determining the release level include a daily report by USDA's Agricultural Marketing Service which shows prices bid by buyers at selected markets, and a month-end Economics, Statistics and Cooperatives Service (ESCS) report of prices received by farmers, showing the previous month's average prices and the current mid-month price. The daily markets reviewed for oats are Chicago and Minneapolis, with the 5-day average of these market prices adjusted to reflect prices received by farmers. The call price for oats entered into the reserve before January 7, 1980, is $1.51 per bushel, compared with $1.57 for oats entered after that date. The minimum price at which the CCC can sell its oats inventory while a grain reserve is in effect (150 percent of the current loan rate) is $1.62 per bushel.

Futures Markets

Oat futures are traded on the Chicago Board of Trade, the MidAmerica Commodity Exchange in Chicago, and the Winnipeg Commodity Exchange in Canada.

Salient Statistics of Oats in the United States & Canada

							U.S. Government Price Support Program						Average Prices No. 2	
	Acreage				Farm Disposition			Under Price Support						
Year Begin. July	Planted[2]	Harvested[3]	Yield Per Harv. Acre	Farm Value of Product	Feed & Seed	Sold	Owned By CCC July 1	Loans	Purch. Agree.	Total	Deliveries To CCC	Nat. Avg. Support Rate	White, Portland	Heavy Chicago
	1,000 Acres		Bushels	Mill. $	Mil. Bu.		1,000 Bushels					$ Bu.	Dollars per Bushel	
1967–8	20,719	16,110	49.3	528	525	268	47,796	37,200	400	36,740	19,500	.63		
1968–9	23,342	17,708	53.7	576	592	359	45,206	89,200	5,700	89,135	35,600	.63		
1969–0	23,561	17,971	53.7	572	586	380	61,088	152,500	10,100	162,600	62,000	.63	.74	.64
1970–1	24,469	18,594	49.2	584	563	355	104,254	108,900	4,800	113,700	26,600	.54	.80	.77
1971–2	21,956	15,705	55.9	546	539	339	168,910			81,900	700	.54	.83	.74
1972–3	20,178	13,410	51.5	509	428	262	178,128			31,800	—	.54	1.02	.88
1973–4	19,147	13,770	47.9	785	404	256	104,942			10,392	—	.54	1.57	1.40
1974–5	17,967	12,608	47.6	933	389	212	24,000			3,900	—	.54	1.96	1.75
1975–6	16,486	13,092	49.0	928	397	245	5,800			3,900	—	.54	1.86	1.54
1976–7	16,734	11,946	45.7	845	353	193	—			4,600	—	.72	1.80	1.71
1977–8	17,733	13,452	55.8	825	456	295	—			82,900	1,500	1.03	1.44	1.36
1978–9[1]	16,245	11,426	52.2	705	371	231	1,500			25,000	500	1.03	1.79	1.37
1979–0[1]	14,146	9,831	54.4				2,000			10,000		1.08	1.85	1.54
1980–1[1]	13,500													

[1] Preliminary. [2] For all purposes. [3] For grain. *Source: Statistical Reporting Service, U.S.D.A.*

OATS

World Production of Oats In Thousands of Metric Tons

Crop Year	United States	Canada	Argentina	Australia	Turkey	U.S.S.R.	W. Germany	Spain	Netherlands	Denmark	France	Sweden	Un. King.	Poland	World Total
1967–8	11,522	4,691	690	719	475	9,700	3,841	492	365	904	3,411	1,396	1,386	2,768	49,348
1968–9	13,799	5,591	490	1,710	450	9,700	4,135	522	318	861	3,066	1,584	1,224	2,831	52,821
1969–0	14,020	5,728	425	1,247	468	10,700	4,250	533	322	765	2,842	1,129	1,308	3,063	53,396
1970–1	13,313	5,672	360	1,613	415	11,800	3,481	395	201	631	2,556	1,685	1,217	3,209	52,882
1971–2	12,792	5,605	475	1,275	455	14,650	4,120	582	213	701	3,134	1,867	1,360	3,195	57,550
1972–3	10,044	4,630	566	740	396	14,100	3,909	440	144	637	3,084	1,630	1,255	3,212	51,286
1973–4	9,681	5,041	561	1,107	376	17,516	4,155	425	134	444	2,204	1,209	1,080	3,220	53,872
1974–5	8,912	3,929	327	874	380	15,257	3,482	559	163	472	2,081	1,686	950	3,244	49,320
1975–6	9,551	4,466	433	1,141	390	12,495	3,445	609	158	367	1,948	1,345	795	2,920	47,044
1976–7	7,930	4,831	530	1,073	400	18,113	2,497	505	103	256	1,402	1,251	764	2,695	48,744
1977–8[1]	10,901	4,303	570	991	370	18,407	2,714	421	94	288	1,928	1,416	790	2,561	51,508
1978–9[2]	8,724	3,621	550	1,551	370	19,000	3,245	539	115	216	1,810	1,675	725	2,600	51,154
1979–0															

[1] Preliminary. [2] Estimated. *Source: Foreign Agricultural Service, U.S.D.A.*

United States Official Oat Crop Production Reports In Thousands of Bushels

Year	June 1	July 1	August 1	September 1	October 1	December[1]	Final
1967	[2]	774,208	785,065	805,649	805,649	781,867	793,800
1968	[2]	888,700	938,435	934,424	934,424	929,524	950,689
1969	[2]	930,618	972,715	938,153	938,153	949,874	965,863
1970	[2]	957,525	902,800	891,800	891,310	909,481	915,236
1971	[2]	850,960	885,049	884,642	884,642	875,775	878,079
1972	[2]	711,909	736,775	730,762	730,762	694,967	690,616
1973	[2]	716,615	707,756	702,280	702,280	663,860	659,136
1974	[2]	684,021	637,951	648,711	648,711	620,539	600,655
1975	[2]	731,431	697,834	677,754	677,754	656,862	642,042
1976	[2]	498,938	548,542	563,997	—	562,452	546,315
1977	[2]	707,074	757,589	758,669	—	747,914	750,901
1978	[2]	635,551	636,785	595,879	—	601,477	595,882
1979	[2]	509,761	530,967	531,232	—	534,386	
1980							

[1] Preliminary. [2] No estimate. *Source: Crop Reporting Board, U.S.D.A.*

Oats Under Price Support Through the End of the Month (Cumulative Totals from Current Season's Crop) In Millions of Bushels

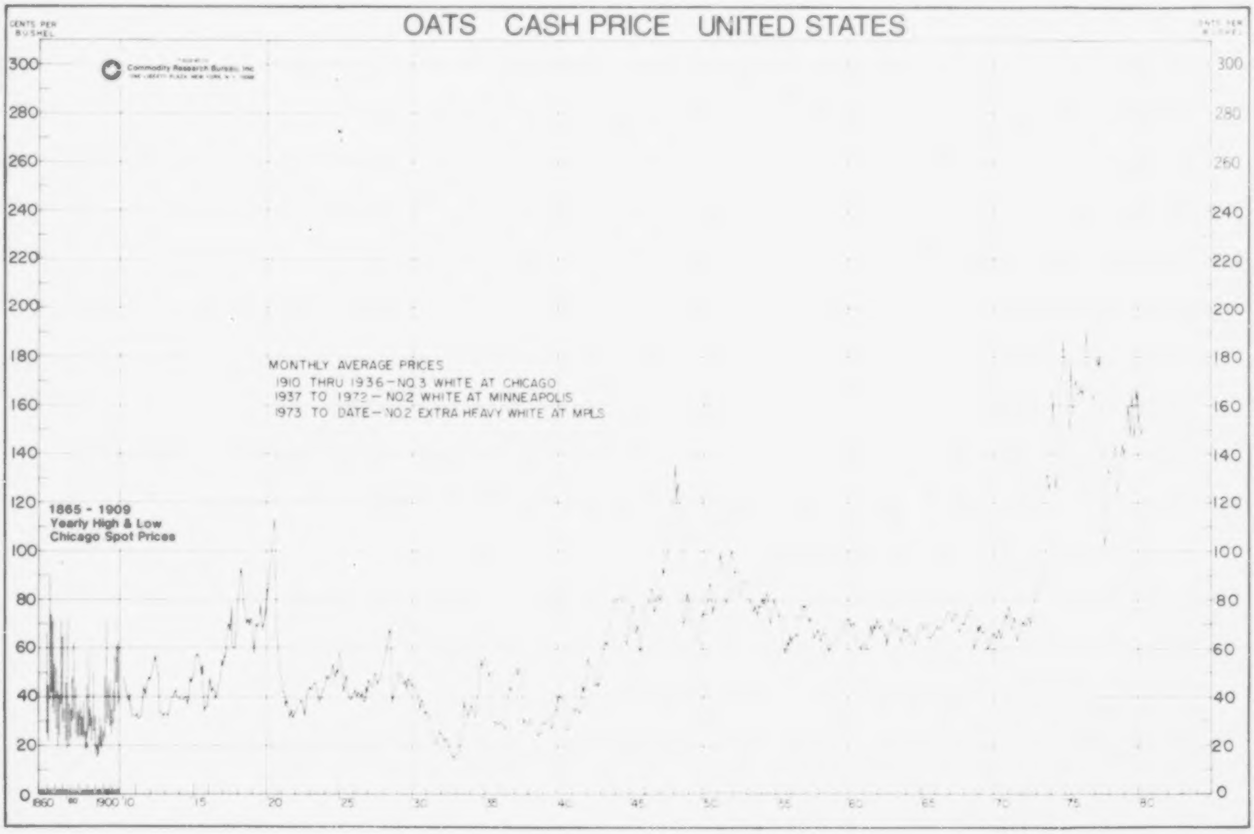
Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1967–8	.4	4.3	17.0	24.9	27.4	29.5	33.1	34.2	35.2	35.7	36.2	36.3	37.2
1968–9	1.3	19.1	42.0	59.6	67.5	72.0	80.0	82.3	84.0	86.8	88.6	89.0	94.9
1969–0	3.6	15.6	64:1	97.0	105.1	111.1	131.2	136.6	142.3	148.9	151.7	152.4	162.6
1970–1	6.7	23.8	59.1	75.2	82.3	86.9	98.2	100.7	103.1	106.7	108.5	108.9	113.7
1971–2	1.6	18.4	46.9	61.4	66.9	70.2	76.8	78.3	79.4	80.9	81.7	81.8	81.9
1972–3	.5	5.3	18.8	25.8	28.5	29.6	31.1	31.4	31.6	31.7	31.8	31.8	31.8
1973–4	.4	4.4	7.5	8.7	9.6	10.0	10.3	10.3	10.4	10.4	10.4	10.4	10.4
1974–5	.3	1.8	2.9	3.4	3.6	3.7	3.8	3.8	3.9	3.9	3.9	3.9	3.9
1975–6	.4	1.5	2.0	3.0	3.2	3.7	3.8	3.9	3.9	3.9	3.9	3.9	3.9
1976–7	.4	1.0	1.7	2.6	3.4	4.0	4.2	4.3	4.4	4.4	4.4	4.4	4.4
1977–8	7.8	30.0	48.5	54.9	59.5	62.3	65.3	67.1	73.2	76.1	77.9	78.9	78.9
1978–9	.5	8.2	14.9	18.5	21.2	22.4	23.9	24.2	24.5	24.7	24.8	24.8	24.8
1979–0	—	2.0	5.0	7.1	8.7	9.5	10.5						
1980–1													

Source: U.S. Department of Agriculture

Average Cash Price[1] of No. 2 Extra Heavy White Oats[2] at Minneapolis In Cents Per Bushel

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average[1]
1967–8	71.2	67.2	67.9	69.6	70.6	70.1	72.7	73.6	74.0	75.9	76.2	71.0	70.2
1968–9	65.8	60.4	62.7	64.1	68.7	67.0	70.4	69.2	66.1	66.7	67.0	61.4	64.1
1969–0	59.8	59.5	61.7	65.4	65.5	65.6	65.6	64.8	63.5	66.5	68.0	65.9	63.2
1970–1	64.1	66.6	72.4	73.0	73.9	72.3	77.5	75.4	68.8	68.1	72.6	71.5	70.9
1971–2[2]	63.0	61.8	64.0	64.0	66.0	68.0	69.0	69.0	66.0	67.0	70.0	70.0	66.0
1972–3	69.0	70.0	71.0	76.0	81.0	91.0	88.0	84.0	84.0	86.0	91.0	93.0	80.0
1973–4	93.0	128	132	126	125	132	155	166	152	126	135	143	130
1974–5	163	168	171	187	180	174	164	164	149	172	178	159	168
1975–6	159	170	168	164	169	165	167	166	164	167	172	193	166
1976–7	184	167	167	166	162	167	178	180	176	181	168	138	174
1977–8	115	102	111	117	134	132	132	132	133	140	143	136	127
1978–9	124	128	136	139	147	140	147	154	160	148	155	168	143
1979–0	160	147	155	165	167	159	152	150	148	152			
1980–1													

[1] Weighted average of reported daily cash sales. [2] No. 2 WHITE prior to July 1971. *Source: Department of Agriculture*



OATS

Quarterly Supply and Distribution of Oats in the United States In Millions of Bushels

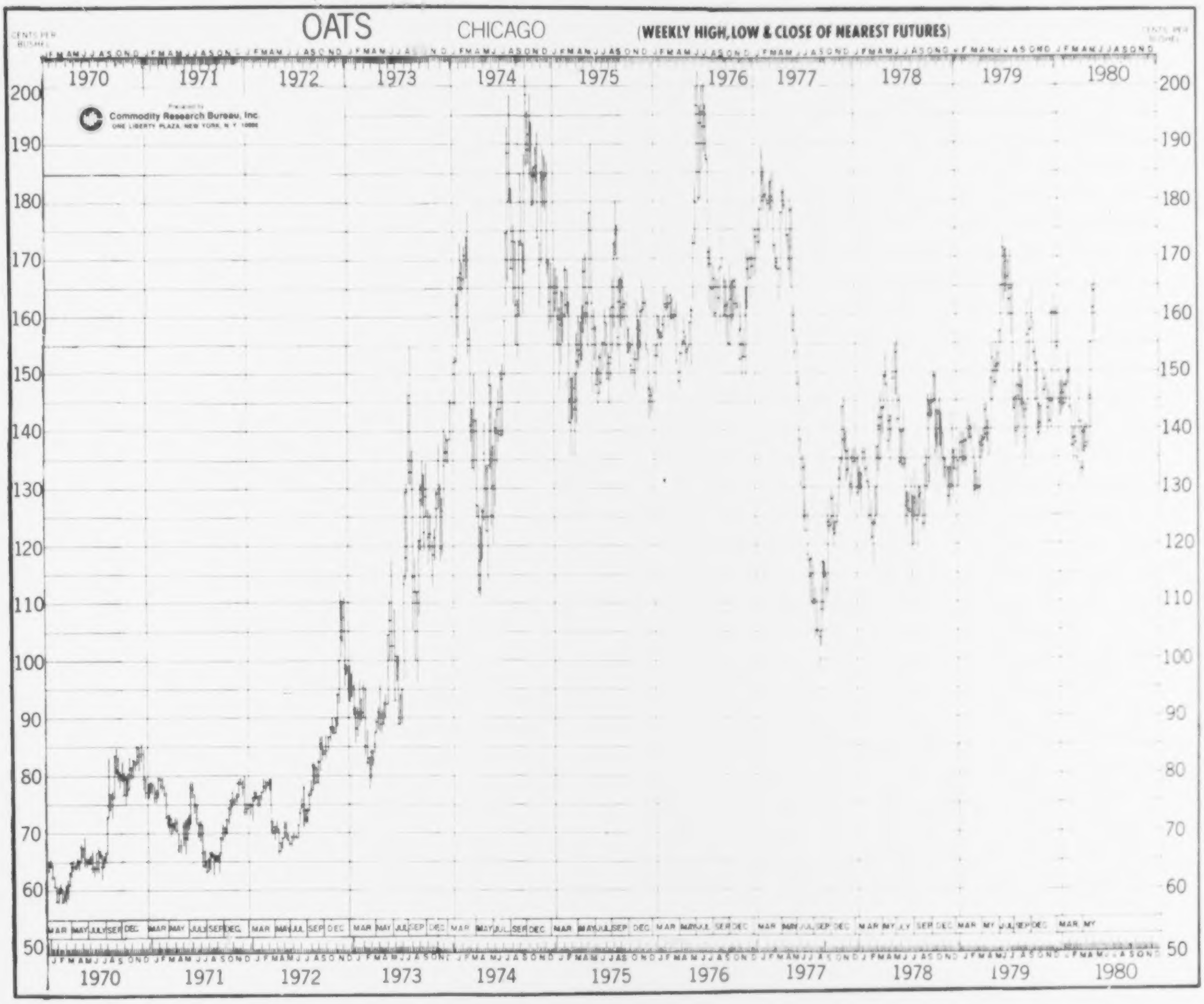
Year & Periods Begin. June 1	Supply				Disappearance							Stocks		
					Domestic Use									
	Beginning Stocks	Production	Imports	Total Supply	Food	Alc Beverages	Seed	Feed	Total	Exports	Total Disappearance	Gov't. Owned[2]	Privately Owned[3]	Total Stocks
1975-6	223.0	642.0	.7	865.7	41.6	—	43.1	562.1	646.8	13.7	660.5	—	205.2	205.2
June-Sept.	223.0	642.0	.3	865.3	13.9	—	2.2	228.4	244.5	2.6	247.1	2.6	615.6	618.2
Oct.-Dec.	618.2	—	.1	618.3	10.5	—	2.2	103.5	116.2	8.1	124.3	—	494.0	494.0
Jan.-Mar.	484.0	—	.2	494.2	10.4	—	8.6	156.6	175.6	.7	176.3	—	317.9	317.9
Apr.-May	317.9	—	.1	318.0	6.8	—	30.1	73.6	110.5	2.3	112.8	—	205.2	205.2
1976-7	205.2	546.3	1.4	752.9	42.7	—	45.7	490.0	578.4	9.6	588.0	—	164.9	164.9
June-Sept.	205.2	546.3	.1	751.6	14.5	—	2.3	197.5	214.3	4.9	219.2	—	532.4	532.4
Oct.-Dec.	532.4	—	.1	532.5	10.6	—	2.3	103.4	116.3	3.7	120.0	—	412.5	412.5
Jan.-Mar.	412.5	—	.6	413.1	10.7	—	9.1	133.7	153.5	.5	154.0	—	259.1	259.1
Apr.-May	259.1	—	.6	259.7	6.9	—	32.0	55.4	94.3	.5	94.8	—	164.9	164.9
1977-8	164.9	750.9	2.2	918.0	42.7	—	41.2	511.2	595.1	12.3	607.4	—	310.6	310.6
June-Sept.	164.9	750.9	1.1	916.9	14.6	—	2.1	220.6	237.3	2.7	240.0	—	676.9	676.9
Oct.-Dec.	676.9	—	.5	677.4	10.9	—	2.1	92.6	105.6	6.8	112.4	—	565.0	565.0
Jan.-Mar.	565.0	—	.4	565.4	10.3	—	8.2	126.7	145.2	1.5	146.7	—	418.7	418.7
Apr.-May	418.7	—	.2	418.9	6.9	—	28.8	71.3	107.0	1.3	108.3	—	310.6	310.6
1978-9[1]	310.6	595.9	.7	907.2	42.0	—	35.8	530.0	607.8	12.7	620.5	2.3	284.4	286.7
June-Sept.	310.6	595.9	.3	906.8	14.8	—	1.9	221.1	237.8	7.9	245.7	1.3	659.8	661.1
Oct.-Dec.	661.1	—	.1	661.2	10.4	—	1.9	86.1	98.4	3.4	101.8	2.3	557.1	559.4
Jan.-Mar.	559.4	—	.2	559.6	10.8	—	7.7	149.8	168.3	.7	169.0	2.5	388.1	390.6
Apr.-May	390.6	—	.1	390.7	6.0	—	24.3	73.0	103.3	.7	104.0	2.3	284.4	286.7
1979-80[1]	286.7	534.4	1.0	822.1	43.4	—	36.7	530.0	610.1	2.0	612.1	—	—	210.0
June-Sept.	286.7	534.4	.3	821.4	14.5	—	2.0	229.5	246.0	.9	246.9	2.4	572.1	574.5
Oct.-Dec.	574.5	—	.2	574.7	11.1	—	1.9	77.3	90.3	1.9	92.2	2.6	479.9	482.5
Jan.-Mar.	482.5	—	.2	482.7	11.0	—	7.5	120.1	138.6	.5	139.1	2.2	341.4	343.6
Apr.-May														
1980-1														

[1] Preliminary. [2] Uncommitted inventory. [3] Includes quantity under loan & farmer-owned reserve.
Source: Commodity Economics Division, U.S.D.A.

Production of Oats in the United States, by States in Millions of Bushels

Year	Illinois	Indiana	Iowa	Michigan	Minnesota	Missouri	Nebraska	New York	No. Dakota	Ohio	Pennsylvania	So. Dakota	Texas	Wisconsin	California
1967	43.8	13.2	101.4	24.5	157.2	8.5	21.0	22.3	66.6	25.2	18.9	107.5	6.6	107.2	—
1968	49.9	23.0	106.4	33.6	197.3	10.9	12.8	25.2	109.4	47.1	25.2	106.1	19.8	106.1	—
1969	42.9	19.0	93.8	27.0	190.8	5.3	24.4	20.8	153.6	36.3	19.2	109.6	25.5	104.6	—
1970	34.3	14.6	94.1	27.1	167.7	9.2	24.3	23.3	120.1	31.7	22.5	102.3	29.0	106.3	—
1971	34.8	18.9	91.5	19.5	177.0	11.3	26.4	20.5	113.6	36.7	20.8	128.4	6.0	95.2	—
1972	27.7	12.1	71.3	17.6	126.9	6.9	19.1	12.6	105.6	22.4	17.4	98.0	9.7	74.3	—
1973	19.8	11.8	67.0	16.5	145.4	1.4	21.1	18.5	73.8	25.9	18.4	100.6	26.7	56.2	—
1974	23.1	10.1	78.4	19.3	101.0	4.0	25.1	20.7	44.1	29.5	20.3	81.1	8.1	85.4	—
1975	24.9	12.4	75.5	20.7	104.0	3.3	28.9	20.4	56.2	30.9	19.9	98.1	19.5	74.3	—
1976	22.4	10.2	82.6	19.6	94.8	5.4	27.7	17.3	44.8	28.5	18.1	42.6	14.4	55.0	—
1977	20.7	8.0	82.4	18.7	161.8	7.3	40.6	15.4	60.0	24.8	18.6	132.3	24.0	76.1	5.3
1978	16.0	8.9	60.9	20.5	98.8	1.3	21.2	17.7	65.9	24.4	18.0	102.8	13.8	62.7	5.1
1979[1]	16.2	8.8	63.0	16.5	84.9	2.0	20.1	18.0	37.0	23.8	18.4	98.5	16.8	55.9	4.7
1980															

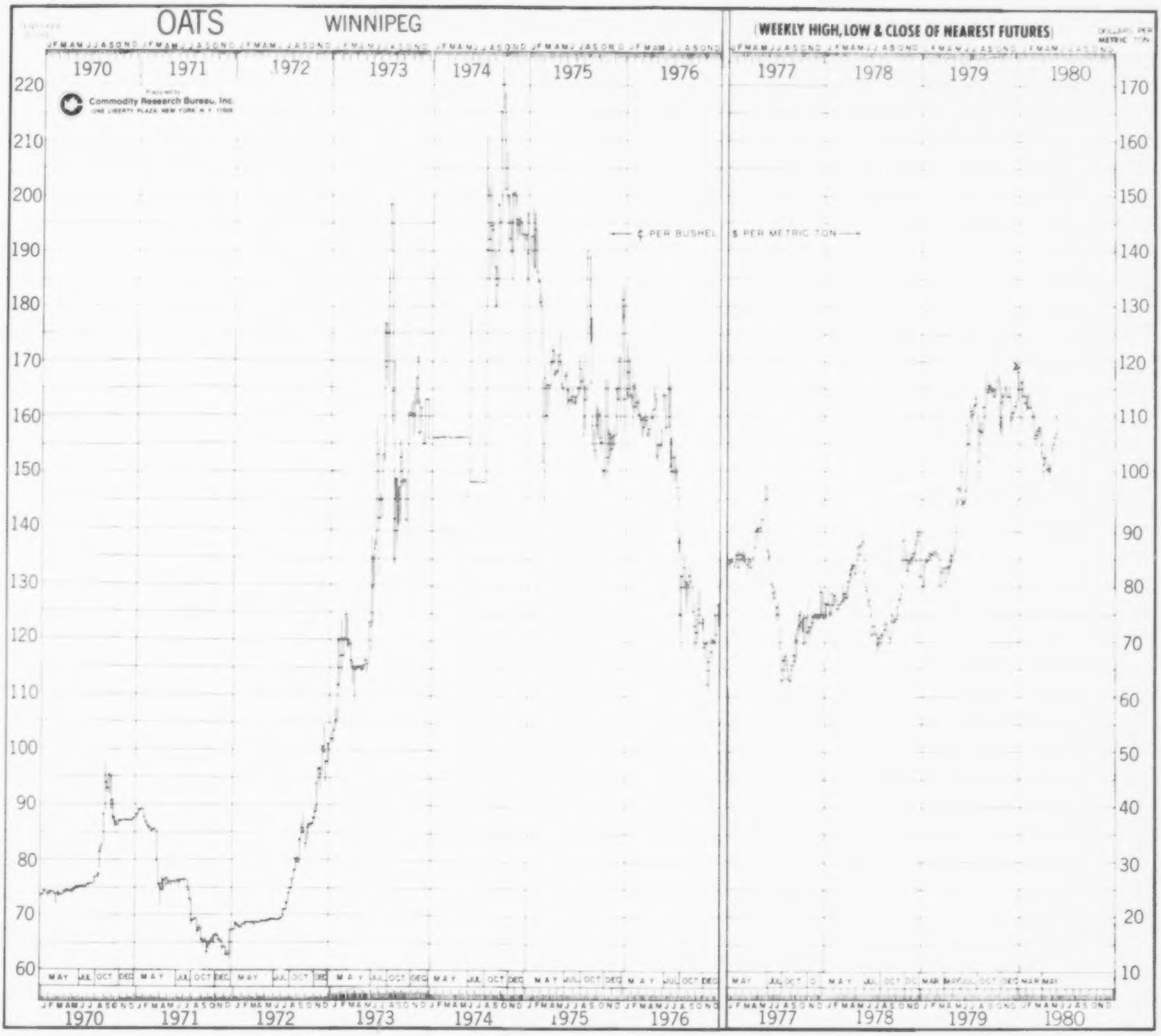
[1] Preliminary. December estimate. *Source: Crop Reporting Board, U.S.D.A.*



Volume of Trading in Oats Futures at Chicago Board of Trade[1] In Millions of Bushels

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1967–8	21.7	33.4	18.5	18.1	17.9	20.8	17.8	22.4	29.7	45.5	98.5	69.4	413.7
1968–9	83.2	62.8	52.3	43.8	47.5	51.5	54.9	74.3	59.4	63.9	55.0	44.6	693.0
1969–0	43.0	51.3	57.8	66.3	55.8	58.0	42.9	37.3	31.3	34.0	27.1	31.2	536.0
1970–1	32.6	64.8	55.1	35.4	28.1	45.3	20.6	15.9	24.7	22.6	14.3	25.5	384.9
1971–2	21.2	19.1	15.7	17.7	15.9	15.4	17.0	14.2	16.1	23.0	12.3	8.0	195.6
1972–3	19.4	22.3	19.7	12.1	16.2	39.0	28.1	30.5	26.5	30.4	73.9	123.1	441.2
1973–4	134.1	173.0	106.7	108.5	449.9	70.0	75.6[1]	86.5	96.4	83.3	91.7	80.5	1,556.2
1974–5	86.5	106.4	86.8	71.6	59.5	59.4	73.9	57.2	54.7	69.9	82.9	64.3	873.1
1975–6	71.6	74.7	62.2	53.8	56.8	50.7	37.9	41.5	39.8	25.4	44.7	82.0	641.1
1976–7	95.0	72.9	64.5	44.1	44.5	32.2	39.3	39.5	41.6	44.9	41.8	54.2	614.5
1977–8	53.8	55.3	44.6	35.0	66.1	33.8	31.4	37.7	59.7	80.2	68.8	98.5	664.9
1978–9	103.8	121.3	120.0	149.0	141.0	67.7	59.3	93.9	51.1	95.4	87.1	135.7	1,225.3
1979–0	127.8	111.6	76.1	98.6	96.0	47.1	56.9	85.3					
1980–1													

[1] Data prior to Jan. 1974 are for ALL CONTRACT MARKETS IN THE U.S. *Source: Commodity Futures Trading Commission*



Average Price Received by U.S. Farmers for Oats In Cents Per Bushel

Year	July	Aug.	Sept.	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May	June	Average[1]
1967–8	66.9	62.2	63.8	54.7	65.1	66.1	66.7	68.6	68.7	69.4	69.2	69.4	65.9
1968–9	60.6	53.3	56.1	58.2	60.3	60.7	62.5	64.4	62.1	61.4	62.4	62.5	59.8
1969–0	58.0	52.6	54.6	57.1	57.8	58.0	58.7	59.1	58.1	58.8	60.2	61.3	58.4
1970–1	58.0	56.7	61.0	61.3	63.2	65.0	66.8	67.5	65.8	63.4	66.0	70.7	62.3
1971–2	62.6	55.5	57.4	58.1	59.5	62.2	63.8	63.6	63.8	63.5	63.8	66.6	60.5
1972–3	65.5	62.3	64.5	67.1	70.0	80.6	81.1	77.6	77.1	77.4	79.6	90.4	72.5
1873–4	85.5	113	109	114	113	120	132	144	140	124	127	130	118
1974–5	137	155	157	168	170	170	162	158	146	151	154	149	153
1975–6	145	144	145	141	140	142	144	146	146	144	147	164	146
1976–7	164	148	149	146	145	151	158	163	164	164	152	129	156
1977–8	102	92.9	93.8	104	110	113	118	122	117	119	124	116	110
1978–9	108	106	106	108	115	119	122	125	127	129	129	135	118
1979–0	133	124	131	131	140	131	139	137	134	134			
1980–1													

[1] Weighted average by sales. *Source: Crop Reporting Board, U.S.D.A.*

Olive Oil

Potential world production of olive oil in 1979/80 (based on assumed extraction rates applied to the portion of each crop considered available for crushing and/or export, and not actual production) was forecast by the Foreign Agricultural Service of the USDA in April 1980 at about 1.33 million tonnes. This forecast compared with estimated 1978/79 production of about 1.54 million tonnes, and was somewhat larger than an earlier forecast of about 1.3 million tonnes by the International Olive Oil Council (IOOC). In late 1979, the IOOC estimated 1978/79 world consumption of olive oil at 1.4 million tonnes and predicted that 1979/80 production would be smaller than the average of recent crops and less than 1979/80 consumption, with a resultant improved balance in the international market.

Olive oil production is concentrated in the Mediterranean Basin countries of Italy, Spain, Greece, Tunisia and Turkey. Indicated sharp reductions in 1979/80 olive oil production in Spain because of a drought and in Turkey were expected to more than offset an estimated production increase in Italy.

The Olive Oil Trading Agreement adopted in March 1979 under the auspices of the United Nations Conference on Trade and Development (UNCTAD) became effective February 5, 1980. The signatory countries account for an estimated 94.62 percent of world olive oil output. As of February 5, the only primarily importing nations to ratify the agreement were Egypt, Libya and Panama. In contrast to the 1963 agreement, which it supersedes, the new pact extends to all aspects of production and covers products of the olive tree other than oil. It also places greater emphasis on the transfer of technology to enable producers in developing nations to reduce costs and improve quality. To deal with supply/demand imbalances, the accord relies on consultations among producers, rather than on economic measures such as stockpiling.

World Production of Olive Oil (Pressed Oil)[2] In Thousands of Metric Tons

Crop Year[2]	Algeria	Greece	Italy	Jordan	Lebanon	Argentina	Morocco	Portugal	Spain	Syria	Tunisia	Turkey	Yugoslavia	Israel	World Total
1967–8	22	194	537	18	12	13	18	81	259	22	51	60	7	3	1,335
1968–9	18	154	384	9	5	12	50	53	480	22	55	126	2	1	1,384
1969–0	22	156	473	5	7	10	20	72	358	26	25	50	1	4	1,249
1970–1	13	198	420	1	3	21	15	67	475	15	90	110	1	1	1,437
1971–2	23	183	616	6	11	9	55	42	341	22	167	51	1	1	1,559
1972–3	15	249	340	—	7	28	35	54	440	33	70	154	1	2	1,450
1973–4	16	192	543	7	12	22	28	38	465	14	130	53	1	—	1,544
1974–5	16	192	543	7	12	19	30	42	447	14	130	53	2	—	1,526
1975–6	9	237	433	1	14	17	26	48	333	44	117	110	4	5	1,413
1976–7[1]	17	257	633	5	6	12	38	49	455	33	180	96	4	—	1,805
1977–8[1]	16	224	301	2	6	17	30	36	390	56	85	150	4	1	1,331
1978–9[1]	16	231	692	7	6	17	15	30	339	38	105	60	—	1	1,580
1979–80															

[1] Preliminary. [2] Total pressed oil in marketing year ending Oct. 31; excludes sulfur oil extracted from residues.

Source: Foreign Agricultural Service, U.S.D.A.

Wholesale Price of Olive Oil (Imported, Edible), in Drums at N.Y. In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.4	39.2	37.6	38.1
1968	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7
1969	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7
1970	38.7	38.7	40.3	40.7	40.7	40.7	40.7	40.7	39.3	39.3	39.3	39.3	40.0
1971	39.3	39.3	39.3	39.3	39.3	39.3	39.3	42.7	42.7	42.7	42.7	42.7	40.7
1972	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7
1973	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	N.A.	54.5	90.0	86.7	51.3
1974	86.7	86.7	86.7	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	92.7	92.7	92.5	89.6
1975	110.7	116.7	116.7	116.7	116.7	116.7	116.7	112.0	116.7				112.7
1976	103.3	103.3	103.3	103.3	103.3	103.3	103.3	103.3	86.7	86.7	86.7	86.7	97.8
1977	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7
1978	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.3	83.3	83.3	83.3	83.3	85.5
1979	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3	83.3
1980	62.5	78.1	83.3										

Source: Economic Research Service, U.S.D.A.

Onions

Salient Statistics of Onions in the United States

Crop Year	Stocks—Jan. 1 (1,000 Cwt.)			Acres Harvested	Yield Per Acre	Production	Price Per Cwt.	Farm Value	Domestic Exports[3]	Imports[3]	Per Capita[2] Consumption	
	Common Storage	Cold Storage	Total Stocks	Acres	Cwt.	1,000 Cwt.	Dollars	$1,000	1,000 Cwt.		Farm Wt. (Lbs.)	Frozen
1967	4,079	206	4,285	102,680	278	28,579	3.95	104,113	1,318	921	12.1	
1968	4,609	202	4,811	105,920	272	28,769	3.60	92,390	1,193	514	11.9	.16
1969	5,301	214	5,515	100,000	282	28,234	4.13	107,450	1,514	837	12.5	.18
1970	4,351	185	4,536	101,000	302	30,493	3.67	98,752	1,398	500	11.9	.25
1971	5,470	180	5,650	98,800	302	29,803	3.88	105,330	1,269	590	10.1	.34
1972	4,810	170	4,980	94,470	300	28,355	6.48	167,715	1,340	1,458	9.9	.51
1973	3,961	77	4,038	104,990	283	29,689	7.57	207,226	1,773	1,079	9.2	.53
1974	4,754	81	4,835	109,730	302	33,151	4.87	147,182	1,553	909	10.5	.49
1975	5,109	80	5,189	103,080	305	31,418	9.35	266,230	1,758	696	9.8	.59
1976	4,430	88	4,518	109,220	322	35,197	6.92	216,356	3,169	1,403	10.1	.66
1977[1]	5,126	98	5,224	107,950	319	34,406	6.76	203,432	1,941	1,345	10.1	.69
1978[1]	5,620	63	5,683	121,220	296	35,936	7.82	250,375			10.6	.72
1979[1]	5,847	67	5,914	123,440	312	38,485	7.58	259,732				
1980												

[1] Preliminary. [2] Onions and shallots. Includes 0.1 pounds of shallots in each year. [3] Year beginning July.
Source: Economic Research Service, U.S.D.A.

Production of Onions in the United States In Thousands of Hundredweight (Cwt.)

Year	Spring[2]				Late Summer										Grand Total
	Texas	California	Arizona	Total (All)	New Mexico	Texas	California	Colorado	Idaho	Michigan	Minnesota	New York	Oregon	Total (All)	
1967	3,795	1,596	1,036	2,667	414	3,320	5,360	1,650	1,377	2,240	286	4,200	2,913	19,067	28,579
1968	2,472	1,740	992	2,742	432	3,262	5,298	1,769	1,968	2,242	265	3,752	4,342	20,217	28,769
1969	3,045	1,652	750	2,402	368	2,942	5,896	1,760	1,684	2,010	225	3,762	2,134	19,928	28,234
1970	3,300	1,888	864	2,752	328	2,872	5,874	1,711	1,978	2,208	221	4,760	2,115	21,569	30,493
1971	3,420	1,508	570	5,498	300	2,875	7,142	1,475	4,281[3]	1,674	240	4,123	[3]	21,430	29,803
1972	2,975	1,881	645	5,501	285	2,846	6,452	1,709	2,184	2,144	252	2,300	3,392	20,008	28,355
1973	3,120	1,512	768	5,400	1,073	1,820	6,384	1,392	2,475	2,046	271	2,992	3,927	24,259	29,689
1974	3,570	1,809	820	6,199	1,122	1,586	8,580	1,479	2,070	2,139	281	3,973	3,576	26,846	33,151
1975	2,975	1,587	686	5,248	1,005	1,404	9,180	1,643	2,025	1,768	165	3,443	3,567	26,170	31,418
1976	4,800	1,652	720	7,172	1,340	1,881	7,215	2,183	2,915	2,166	172	3,631	4,433	28,025	35,197
1977	2,789	1,967	616	5,372	1,040	1,870	8,453	2,040	2,412	2,095	218	4,057	4,287	29,034	34,406
1978	3,345	1,590	738	5,673	1,184	1,502	8,250	2,730	2,470	2,448	223	4,309	4,187	30,266	35,936
1979[1]	3,504	1,904	536	5,944	960	1,482	9,600	2,535	2,295	2,484	127	4,818	4,776	32,541	38,485
1980[1]	3,569	1,785	498	5,852											

[1] Preliminary. [2] Total "Spring" after 1971. Prior add "Texas" for total Spring. [3] Includes "E. Oregon."
Source: Crop Reporting Board, U.S.D.A.

Cold Storage Stocks of Onions (Fresh) in the United States In Thousands of Pounds

Year	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	20,631	21,701	17,906	6,730	1,949	862	647	373	498	2,699	12,015	19,443
1968	20,168	21,203	16,988	4,812	1,153	1,091	860	535	267	5,157	17,911	21,289
1969	21,397	24,261	21,899	17,084	5,650	2,606	1,642	716	390	2,521	8,481	15,772
1970	18,467	18,797	14,872	5,541	969	2,220	1,694	722	893	5,849	13,305	15,420
1971	18,018	19,340	15,053	7,685	2,359	862	1,436	680	558	3,368	10,638	11,729
1972	17,032	16,135	13,526	8,924	1,961	1,339	416	421	666	3,118	6,848	8,911
1973	7,685	8,326	6,003	3,797	359	740	403	690	781	1,798	6,534	8,446
1974	8,061	9,510	6,617	2,952	635	870	521	315	323	3,378	6,296	8,572
1975	8,142	6,807	3,937	3,291	1,865	1,884	538	277	290	3,456	7,214	9,122
1976	8,886	7,632	5,569	2,087	2,005	2,172	4,187	2,271	2,332	837	4,563	8,586
1977	9,829	8,611	8,824	5,034	905	603	537	44	884	2,766	3,922	7,285
1978	6,336	3,981	1,744	1,360	1,127	954	538	2,159	2,607	1,535	3,656	5,201
1979[1]	6,584	6,023	5,400	2,967	2,107	1,254	844	830	291	1,860	1,487	4,298
1980[1]	9,913	8,446	6,429	4,067	1,121							
1981												

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

World Production of Onions In Thousands of Metric Tons

Year	Brazil	Egypt	India	Italy	Japan	South Korea	Mexico	Netherlands	Poland	Romania	Spain	Turkey	Yugoslavia	United States	U.S.S.R.	World Total
1973–77 Avg.	383	641	1,774	486	1,060	124	301	423	349	293	887	703	308	1,485	1,129	13,861
1978	462	599	2,250	520	1,114	165	332	522	431	400	930	880	343	1,630	1,400	15,938
1979[1]	512	593	2,275	440	1,193	393	336	432	380	380	900	900	350	1,746	1,400	16,160
1980																

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

Average Wholesale Price of Onions at Chicago[1] In Dollars Per Hundred Pounds (CWT)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	8.31	8.85	6.79	4.91	4.79	4.91	4.75	4.80	5.74	5.34	6.87	6.08	6.01
1968	6.53	6.71	11.31	11.06	6.87	5.27	5.13	6.18	5.37	4.36	4.44	4.34	6.46
1969	4.28	3.90	3.20	4.28	4.09	5.20	6.83	5.75	5.74	5.31	6.43	6.33	5.11
1970	6.81	8.69	7.77	7.04	5.89	6.40	6.94	5.60	4.43	4.53	4.02	4.62	6.06
1971	4.29	4.94	6.54	7.11	5.26	5.97	6.50	7.24	5.35	6.06	5.75	5.51	5.88
1972	6.16	6.20	5.10	5.69	6.75	8.58	12.03	11.88	9.33	7.31	9.50	8.38	8.08
1973	9.69	11.31	19.75	33.00	21.33	11.50	11.20	9.19	3.30	3.92	4.33	4.31	11.90
1974	5.03	6.05	4.16	3.79	4.03	7.81	8.63	9.83	9.19	7.80	7.04	5.97	6.61
1975	5.46	4.85	9.16	16.13	14.75	15.63	27.83	20.08	13.00	10.80	10.69	14.43	13.57
1976	15.05	11.50	9.21	12.17	13.20	12.50	8.75	8.67	8.14	7.92	7.38	8.71	10.27
1977	11.00	16.46	21.75	23.70	17.67	12.67	12.50	13.00	8.65	8.13	8.08	8.13	13.48
1978	7.47	7.44	13.08	17.25	9.67	12.92	14.56	14.25	10.50	9.58	9.56	10.56	11.40
1979	9.44	15.08	11.75	10.25	12.50	19.50	20.65	14.05	11.10	9.31	8.54	7.15	12.44
1980	7.75	7.04											
1981													

[1] All yellow, all varieties, fair to good quality, U.S. No. 1, all sizes and field run, track and street sales.
Source: Bureau of Labor Statistics (0113–0216)

Average Price Received by Farmers for Onions in the U.S. In Dollars Per CWT.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Season Average
1967	6.60	6.30	5.40	3.75	3.60	3.19	3.92	3.90	3.61	3.75	4.18	4.19	4.37
1968	4.91	5.75	8.68	8.71	4.88	3.58	4.51	3.98	3.71	3.57	3.43	3.18	3.60
1969	2.83	2.41	2.51	2.92	3.55	3.68	4.68	4.30	4.19	4.20	4.45	4.68	4.13
1970	6.36	6.95	6.82	6.41	4.71	5.15	4.98	3.88	3.29	3.10	3.04	2.94	3.67
1971	3.40	3.14	3.52	3.73	3.79	4.18	4.43	4.87	4.39	4.66	4.27	4.65	3.88
1972	4.64	4.08	3.85	4.49	5.48	6.62	8.21	8.17	6.91	6.33	6.53	6.91	6.48
1973	9.43	11.90	17.50	23.70	13.00	8.51	7.39	6.23	5.57	5.97	6.97	7.23	7.57
1974	10.40	10.50	6.30	4.85	4.79	5.24	6.07	7.11	6.34	5.39	4.57	4.27	4.87
1975	3.90	4.61	7.59	12.30	10.60	12.70	17.70	14.20	11.70	9.72	9.80	11.50	9.35
1976	11.10	8.85	6.95	7.20	6.17	5.49	5.65	5.38	5.73	5.34	5.51	6.97	6.52
1977	11.50	14.00	19.40	19.40	10.40	9.00	8.57	6.88	6.40	6.49	6.39	5.50	10.33
1978	4.95	4.76	7.79	12.10	7.50	7.64	9.85	9.14	7.13	6.44	7.05	9.53	7.82
1979[1]	11.00	12.20	9.57	9.70	8.10	11.80	13.70	9.67	7.94	6.35	6.08	5.35	9.29
1980[1]	4.50	4.20	5.30	6.80									
1981													

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Oranges and Orange Juice

The 1978/79 net pack of FCOJ (frozen concentrated orange juice) in Florida amounted to 173.0 million gallons, up some 7 percent from the 161.2 million gallons produced in the previous season. The 1978/79 Florida orange crop of 168.7 million boxes was about 2 percent smaller than the 1977/78 crop, but only slightly fewer boxes were used for the production of FCOJ, and the yield of FCOJ per box was higher than in the previous season. A total of 130.2 million boxes of Florida oranges were used for frozen concentrates in 1978/79, down from 132.2 million in the previous season, while the yield of FCOJ per box increased from 1.23 gallons to 1.34 gallons. A total of 77.2 percent of the Florida orange harvest was used for the production of frozen concentrates vs. 76.5 percent in 1977/78.

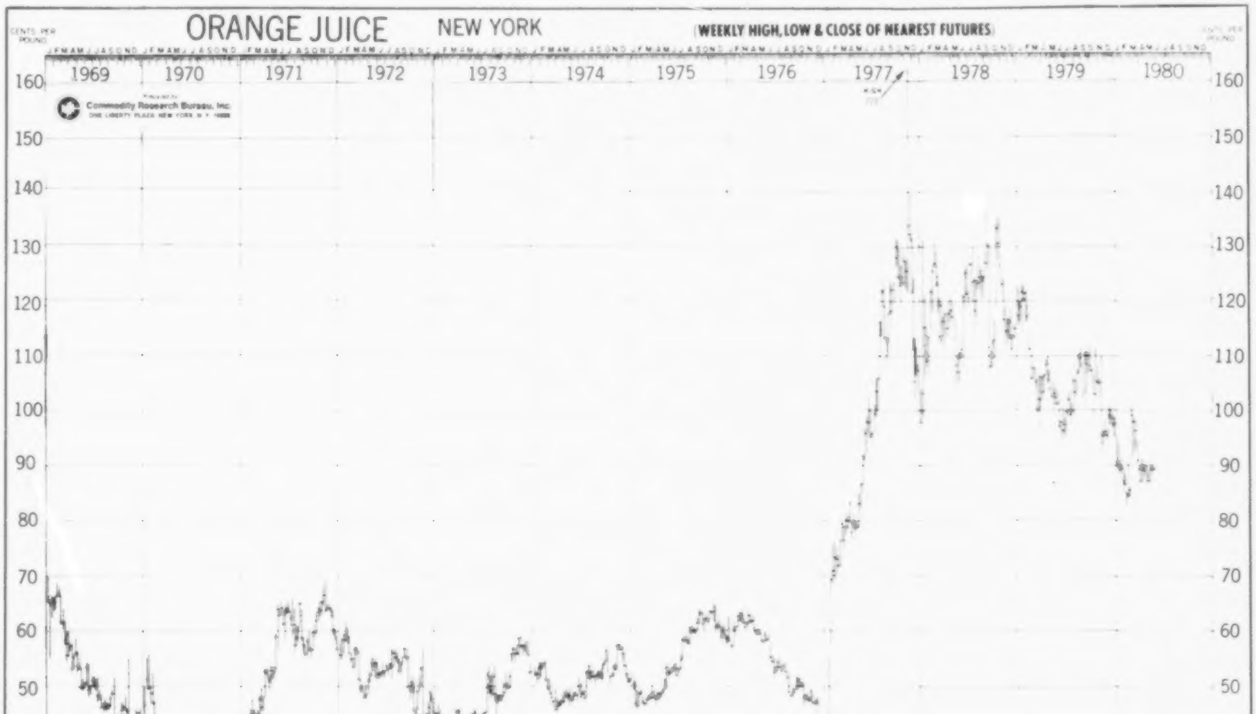
Imports of FCOJ rose to about 36.4 million gallons in 1978/79 from 25.4 million in the previous season. Florida processors, during 1978/79, exported 10 million gallons of 45 degree Brix concentrate, compared with 9.6 million gallons the previous season. Strong U.S. demand plus large concentrate supplies from Brazil continued to limit the potential for U.S. export market expansion in 1978/79.

FCOJ movement during the 1978/79 season amounted to about 215.0 million gallons, up from 200.7 million the previous season. However, because of the sizable increase in supply, ending stocks rose to 37.4 million gallons from 30.9 million at the end of the 1977/78 season. The carryover represented less than 19 percent of the season's movement, slightly more than in the previous season.

Imports into the United States of Brazilian FCOJ were expected to decrease in the 1979/80 season in view of an expected larger total U.S. supply of FCOJ than in the 1978/79 season. However, Brazilian FCOJ exports constitute an important potential source of competition for U.S. exports and as an additional source of U.S. supply. Brazil is the world's largest exporter of FCOJ, shipping more than 95 percent of its output, with carryover limited to pipeline stocks. The state of Sao Paulo accounts for about three-quarters of Brazil's total orange production and almost all the FCOJ produced in the country. In the April 1979–February 1980 processing season, about 110 to 120 million boxes of oranges were processed, which would result in a total FCOJ output of 117 million to 130 million gallons of 45 degree Brix equivalent.

Futures Market

Frozen concentrated orange juice (FCOJ) futures are traded on the Citrus Associates of the New York Cotton Exchange.



World Production of Oranges (Including Tangarines) In Thousands of Metric Tons[3]

Season	Algeria	Argentina	Brazil	Australia	Greece	Israel	Italy	Japan	Mexico	Morocco	Spain	Turkey	South Africa	United States	World Total
1967–8	13.0	25.7	49.8	8.7	6.6	29.9	45.3	61.7	27.8	24.4	65.4	14.0	16.4	165.7	573.7
1968–9[3]	470	1,038	1,622	255	355	845	1,677	2,833	899	720	1,731	532	467	7,527	21,638
1969–0	441	1,092	2,005	343	464	909	1,669	2,424	937	819	2,135	474	493	7,658	22,503
1970–1	451	1,255	2,132	315	421	1,076	1,599	2,994	1,405	753	2,005	513	481	7,875	24,715
1971–2	510	976	2,760	376	390	1,148	1,766	2,885	1,114	821	2,179	535	567	7,889	25,529
1972–3	515	1,032	2,872	338	400	1,221	1,604	4,070	1,270	988	2,642	563	534	9,245	28,932
1973–4	520	1,063	3,782	369	422	1,233	1,891	3,864	1,089	819	2,460	554	545	8,931	29,333
1974–5	480	1,014	4,065	438	539	1,016	2,098	3,952	1,110	583	2,479	622	499	9,913	30,660
1975–6	480	958	4,065	389	567	995	1,931	4,234	905	552	2,643	645	564	10,170	30,918
1976–7	506	990	3,754	391	533	968	2,258	3,575	1,283	784	2,489	671	463	10,144	30,567
1977–8[1]	508	890	5,304	377	455	949	1,944	4,120	750	1,055	2,542	735	591	9,256	31,158
1978–9[2]					629	981	1,699	3,633	783	992	2,494	780	583	8,729	22,314
1979–0[2]					500	934	1,750	4,095		970	2,600	790		10,000	
1980–1															

[1] Preliminary. [2] Estimate. [3] Data prior to 1968–9 are in millions of boxes. *Source: Foreign Agricultural Service U.S.D.A.*

Salient Statistics of Oranges in the United States

Season	Production[2]					Farm Price $ Per Box	Farm Value Million $	Foreign Trade[3]		Quantities Processed	Florida Crop Processed					Yield Per Box (Gall.)
	Arizona	California	Florida	Texas	Total			Domestic Exports	Imports		Frozen Concentrates	Chilled Pdt's Juice	Chilled Pdt's Sections & Salads	Chilled Pdt's Other Processed	Total Processed	
	Million Boxes							Million Boxes								
1967–8	3.1	19.2	100.5	1.8	124.5	3.08	383.8	3.6	1.7	91.7	62.0	16.0	.8	6.8	85.5	
1968–9	5.4	44.3	129.7	4.5	183.8	2.43	447.0	7.1	1.1	138.6	92.1	17.8	.8	9.4	120.1	
1969–0	4.6	39.0	137.7	4.2	185.8	2.09	388.0	6.8	.9	141.0	100.7	18.6	.8	8.2	128.4	1.24
1970–1	3.6	37.5	142.3	6.2	189.4	2.45	465.1	6.2	1.1	145.4	103.5	19.8	.7	8.8	132.8	1.21
1971–2	4.9	43.4	137.0	6.2	191.5	2.87	549.4	7.7	1.1	148.0	104.4	19.5	.5	7.7	132.2	1.29
1972–3	5.1	42.1	169.7	7.8	224.7	2.87	549.4	7.1	1.2	182.3	132.2	20.5	.6	8.9	162.3	1.33
1973–4	3.4	40.4	165.8	6.6	216.2	2.69	603.3	8.2	1.1	171.3	132 5	20.4	.6	7.5	161.0	1.30
1974–5	5.0	55.1	173.3	4.5	237.8	2.78	600.7	12.6	.9	183.6	135.5	22.8	.5	7.6	166.4	1.31
1975–6	2.7	52.8	181.2	6.1	242.8	2.75	653.8	11.6	.5	192.5	144.5	24.0	.6	7.6	176.7	1.29
1976–7	4.0	45.3	186.8	6.9	243.0	2.80	678.7	10.7	1.1	195.8	148.7	27.3	.4	8.8	185.2	1.07
1977–8[1]	3.6	42.6	167.8	6.1	220.1	3.34	811.2	8.9	.6	175.8	132.2	25.3	.4	8.1	166.0	1.23
1978–9[1]	2.9	37.2	164.0	6.4	210.5	5.45	1,198.7				130.2	22.8	.3	6.5	159.8	1.34
1979–0[1]	3.5	54.0	200.0	3.9	261.4	6.44	1,355.6									1.33
1980–1																

[1] Preliminary. [2] Fruit ripened on trees, but destroyed prior to picking is not included. [3] Year beginning Nov. 1.
Source. Economic Research Service, U.S.D.A.

U.S. Cold Storage Stocks of Orange Juice Concentrate[2] In Millions of Pounds

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	184.7	251.9	370.9	449.7	500.5	631.9	803.2	753.3	637.4	499.2	394.8	343.0
1968	340.3	407.4	434.6	348.8	349.2	457.2	488.3	444.2	356.4	285.3	216.7	159.9
1969	188.8	256.4	331.2	373.0	410.6	505.7	610.6	547.2	478.2	383.6	293.7	239.4
1970	281.2	401.6	505.0	482.5	538.1	711.1	783.1	677.7	579.8	473.3	355.7	284.7
1971	323.7	462.8	573.3	581.6	574.5	612.9	684.3	603.1	535.4	450.5	347.3	262.2
1972	289.4	391.7	484.6	540.7	578.3	688.6	764.5	748.8	646.9	528.3	437.0	[illegible]3.0
1973	353.5	468.5	633.7	768.8	830.6	909.5	1,074.6	1,089.1	999.1	829.8	709.6	598.1
1974	641.9	779.1	935.9	1,025.9	1,121.4	1,239.9	1,319.7	1,228.9	1,031.7	917.8	737.4	616.9
1975	654.6	802.1	967.3	985.4	1,032.1	1,246.8	1,294.0	1,153.4	981.7	856.6	696.7	633.2
1976	756.6	943.0	1,046.9	1,016.1	1,075.8	1,203.7	1,339.9	1,229.1	1,075.4	877.1	740.3	605.2
1977	613.6	681.4	845.5	932.8	955.5	1,040.6	914.3	806.5	647.1	551.7	456.3	333.3
1978	392.8	511.5	617.1	617.3	744.4	854.7	883.1	811.6	720.2	549.6	485.4	359.8
1979[1]	506.5	762.3	996.9	995.0	1,044.4	1,186.5	1,229.6	1,116.2	925.3	704.6	560.1	466.6
1980[1]	559.0	802.1	1,060.0	1,120.9	1,227.6							
1981												

[1] Preliminary. [2] Adjusted to 45° BRIX basis (10.027 lbs. per gallon). *Source: Crop Reporting Board, U.S.D.A.*

ORANGES AND ORANGE JUICE

Wholesale Price of Oranges (California) F.O.B. Packed Fresh In Dollars Per Box[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1970	3.491	3.274	3.515	3.744	3.198	3.800	3.764	3.711	3.429	5.445	4.635	4.301	3.859
1971	4.402	3.810	4.626	3.884	4.172	4.391	3.651	3.992	3.561	4.088	3.702	4.367	4.054
1972	4.190	3.535	3.196	3.698	3.567	4.241	3.715	3.701	4.028	3.952	2.742	4.075	3.720
1973[1]	7.30	7.30	7.78	7.64	6.44	6.15	6.60	6.60	7.70	7.40	7.57	7.50	7.17
1974	7.65	7.54	6.64	7.35	7.29	6.85	7.10	7.40	7.95	11.81	8.08	7.29	7.75
1975	7.30	7.54	7.33	7.48	6.93	7.10	6.93	7.04	7.63	7.11	8.60	8.66	7.47
1976	7.60	6.70	6.35	6.23	6.18	6.57	6.91	7.00	7.60	7.76	9.96	8.47	7.28
1977	7.00	7.50	7.28	7.38	7.11	7.88	7.70	8.78	9.10	11.76	14.49	11.30	9.21
1978	11.30	11.19	10.54	9.37	9.97	10.10	10.70	13.40	14.50	14.30	14.47	15.10	12.08
1979	14.60	14.59	14.27	14.04	14.01	15.99	13.50	13.50	12.40	12.80	14.37	11.06	13.76
1980	9.20	9.46											

[1] Prior to 1973 prices are B.L.S. (0111-0106) in $ PER HALF BOX. *Source: Economic Research Service, U.S.D.A.*

Wholesale Price of Frozen Orange Concentrate[1] In Dollars Per Dozen 6 Oz. Cans

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1970	1.976	1.976	1.756	1.756	1.756	1.756	1.735	1.746	1.756	1.651	1.642	1.651	1.763
1971	1.651	1.693	1.777	1.770	1.951	1.992	2.049	2.106	2.106	2.106	2.106	2.106	1.951
1972	2.106	2.106	2.106	2.106	2.159	2.159	2.159	2.159	2.159	2.159	2.159	2.159	2.141
1973	2.159	2.159	2.159	2.159	2.106	2.159	2.106	2.106	2.106	2.159	2.159	2.159	2.141
1974	2.167	2.152	2.152	2.152	2.152	2.152	2.151	2.151	2.170	2.195	2.134	2.154	2.157
1975	2.244	2.254	2.254	2.254	2.254	2.254	2.246	2.246	2.246	2.358	2.383	2.383	2.281
1976	2.383	2.352	2.352	2.383	2.383	2.383	2.187	2.187	2.187	2.187	2.187	2.089	2.272
1977	2.040	2.776	2.752	2.752	2.752	2.910	2.910	3.101	3.223	3.223	3.459	3.508	2.951
1978	3.508	3.508	3.514	3.514	3.514	3.514	3.514	3.514	3.514	3.514	3.649	3.787	3.547
1979	3.787	3.787	3.787	3.787	3.787	3.787	3.787	3.787	3.787	3.787	3.787	3.787	3.787
1980	3.787	3.787											

[1] Packer to wholesaler, distributor, or retail chain store, f.o.b. plant. *Source: Bureau of Labor Statistics* (0242–0103.04)

Volume of Trading of Frozen Concentrated Orange Juice Futures In Contracts

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept	Oct.	Nov	Dec	Total
1970	18,383	12,965	4,243	3,932	5,041	3,145	3,670	2,506	3,424	4,964	4,523	6,551	73.347
1971	14,259	15,778	16,501	14,409	13,514	16,780	20,455	16,446	7,315	9,084	6,453	6,935	157,929
1972	14,346	14,190	13,269	8,754	9,486	5,807	7,361	6,550	10,783	11,686	7,897	13,576	123,705
1973	14,975	8,039	11,602	7,777	9,020	10,230	24,577	23,063	10,249	11,706	11,149	9,583	151,970
1974	11,753	11,312	7,916	5,421	7,159	5,452	7,877	5,478	5,940	11,841	6,836	9,538	96,523
1975	8,594	2,553	4.748	3,670	4,995	4,043	4,430	5,092	6,107	7,825	6,652	7,137	65,846
1976	12,574	5,048	5,181	4,936	4,972	4,355	4,205	4,075	3,680	4,752	4,984	8,163	66,925
1977	12,831	27,061	25,206	18,036	18,477	26,375	24,909	35,222	49,548	47,585	46,545	46,125	377,920
1978	32,409	24,867	29,847	16,358	23,331	26,682	23,252	19,536	20,257	25,430	20,121	12,264	275,854
1979	25,080	17,387	15,162	11,378	11,661	15,526	14,326	16,014	15,010	15,141	12,889	15,320	184,894
1980	21,982	13,010	22,555										

Source: Citrus Assoc. of the N.Y. Cotton Exch.

Month End Open Interest of Frozen Concentrated Orange Juice Futures In Thousands of Contracts

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1970	3,842	3,430	2,807	2,663	1,830	2,298	2,526	2,905	3,071	3,423	3,846	3,914
1971	3,711	5,396	5,448	5,767	5,205	6.424	7,169	5,368	7,315	3.935	3,882	4,104
1972	4,192	5,599	4,698	5,391	5,031	4,719	4,751	4,936	4,584	4,506	4,208	4,978
1973	3,829	4,122	3,613	3,265	3,944	4,446	8,053	5,753	4,898	4,951	4,495	4,843
1974	4,461	4,547	3,136	3,356	3,389	3,456	4,338	4,372	4,995	4,772	5,379	4,210
1975	2,163	2,402	2,373	2,345	3.003	3,589	4,096	5,425	5,805	5,975	5,727	5,417
1976	4,153	4,117	3,252	3,406	3,305	3,722	3,776	3,737	3,773	4,251	5,153	5,201
1977	5,755	9,304	8,950	9,864	8,891	11,374	12,570	14,147	14,531	14,991	16,183	13,478
1978	8,973	10,002	10,611	11,980	12,381	12,878	11,964	13,950	12,781	12,878	9,212	9,073
1979	7,916	8,503	6,734	7,887	7,223	8,261	8,058	8,116	6,510	7,101	8,423	10,428
1980	7,612	6,501	6,126	6,390								

Source: Citrus Assoc. of the N.Y. Cotton Exch.

Palm Oil

Palm oil production in West Malaysia (Peninsular Malaysia), which is the world's largest producer and exporter of palm oil, in calendar year 1979 was estimated by the USDA to be up 16 percent from production in 1978. Early indications were that 1980 production would exceed 2.2 million tonnes, up 13 percent from estimated output in 1979. Exports account for more than 90 percent of palm oil production. Processed palm oil exports in 1979 totaled 1.5 million tonnes, up 610,000 from 1978, according to an April 1980 report of the Palm Oil Refiners Association of Malaysia. This report also noted that processed palm oil now accounts for about 80 percent of Malaysia's total palm oil exports.

During the 1978/79 marketing year, palm oil sold at an average premium of $95 per ton over soybean oil in the United States, and imports declined to the lowest level in 5 years.

World Palm Oil Statistics In Thousand Metric Tons

	Production							Exports						
Year	W. Malaysia	Indonesia	Ivory Coast	Sabah	Zaire	Others	Total	W. Malaysia	Indonesia	Ivory Coast	Sabah	Zaire	Others	Total
1974	942	351	140	88	174	910	2,605	870	282	102	88	66	53	1,461
1975	1,137	411	146	116	165	900	2,875	1,032	386	114	128	53	80	1,793
1976	1,261	434	151	134	155	915	3,050	1,207	406	92	128	40	54	1,927
1977	1,484	497	133	129	150	940	3,333	1,304	405	79	124	21	46	1,979
1978[1]	1,633	525	150	145	137	957	3,547	1,365	412	68	144	10	45	2,044
1979[2]	1,900	570	160	165	130	988	3,913	1,775	400	60	160	10	55	2,460

[1] Preliminary. [2] Projected. *Source: Economic Research Service, U.S.D.A.*

Palm Oil—U.S. Supply & Distribution In Millions of Pounds

	Supply			Utilization								Prices		
				Food Uses								¢ Per Pound		
Year Begin. Oct.	Imports	Stocks Oct. 1	Total Supply	Shortening	Margarine	Salad or Cooking Oil	Other	Total	Non Food Uses	Total Disappearance	Exports (& Shipments)	Value of[2] Imports	U.S. Ports C.I.F.	Malaya, 5% Bulk, CIF Europe
1971–2	440	36	476	303	1	—	36	340	11	351	32	—	11.5	10.1
1972–3	363	93	456	299	7	9	29	344	12	356	40	9.7	12.3	13.9
1973–4	346	60	406	257	1	3	21	282	12	294	24	20.1	22.2	26.8
1974–5	757	88	845	606	16	24	37	683	8	691	27	24.2	24.7	23.9
1975–6	933	127	1,060	699	52	77	11	839	44	883	39	16.2	18.1	17.7
1976–7[1]	661	138	813							611	57	19.8	23.8	24.0
1977–8[1]	361	131	492							367	52		26.4	
1978–9[1]	277	74	351							277	11			
1979–0[1]	300	74	374							275				

[1] Preliminary. [2] F.O.B. importing countries. *Source: Economic Research Service, U.S.D.A.*

Average Wholesale Palm Oil Prices, CIF, Bulk, U.S. Ports In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1972	11.8	11.8	11.8	11.8	11.3	10.0	9.9	9.8	9.8	9.8	9.8	9.8	10.6
1973	9.8	9.8	9.8	9.8	9.8	15.1	18.0	18.0	18.0	18.4	19.5	19.5	14.6
1974	24.9	28.0	21.2	20.4	22.6	22.8	21.4	22.9	24.0	18.6	26.3	28.8	26.9
1975	31.2	27.5	28.1	28.9	24.6	23.0	20.6	21.1	18.2	22.4	19.0	17.2	22.8
1976[1]	16.8	16.4	17.0	16.0	15.9	17.4	19.5	19.0	19.7	19.4	19.4	19.6	18.1
1977	20.5	23.0	27.1	25.5	29.5	29.6	25.0	23.3	21.6	20.2	20.4	23.9	24.3
1978	23.1	25.2	27.4	28.0	28.4	30.6	31.2	28.5	29.8	30.5	30.4	31.0	28.7
1979	31.7	32.8	31.1	31.2	31.5	32.1	33.6	31.5	30.3	29.1	29.1	30.1	31.2
1980	32.0	32.4	31.8										

[1] Prior to 1976 prices are for CONGO, TANK CARS, F.O.B. N.Y. *Source: Economic Research Service, U.S.D.A.*

Palm Oil Imports into the United States In Millions of Pounds

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1974–5	69.4	35.2	47.7	48.8	56.1	63.7	29.6	64.8	69.6	131.1	56.7	84.2	756.9
1975–6	100.0	142.9	112.7	68.7	109.3	70.3	63.1	44.8	57.6	44.2	55.1	64.6	933.4
1976–7	50.4	97.2	50.4	—	—	42.2	40.9	31.6	65.8	34.9	47.3	33.5	660.8
1977–8	25.7	43.6	17.9	31.4	44.2	35.2	33.4	28.6	26.4	19.1	38.8	16.5	361.0
1978–9	8.8	31.1	7.8	36.4	33.4	24.4	21.3	14.4	38.3	9.1	31.1	21.1	277.1
1979–0	30.0	22.5	30.3	45.4	8.8								

Source: Economic Research Service, U.S.D.A.

Paper

Paper and board producers were expected to continue increasing sales in 1980, despite an anticipated slowing of the general economy. U.S. paper and board apparent consumption was expected to approximate the 70 million tons estimated for 1979, averaging 50,000 tons for every $1 billion of real Gross National Product. Mill output was expected to reach 65.6 million tons in 1980. Paper imports were expected to drop nearly 10 percent in 1980 to about 8 million tons, reflecting additional capacity in printing papers. U.S. paper and board exports were expected to climb about 10 percent to 3.3 million tons.

Combined paper and board mill operating rates through much of 1979 averaged 94.5 percent of

Production of Paperboard in the United States In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	1,868	1,753	1,895	1,856	1,876	1,865	1,634	1,865	1,723	1,982	1,862	1,659	22,085
1968	1,980	1,955	2,043	2,035	2,052	2,055	1,890	2,095	1,927	2,044	1,889	1,926	24,504
1969	2,093	2,025	2,236	2,156	2,221	2,180	2,029	2,151	2,047	2,228	2,150	2,033	26,069
1970	2,237	2,057	2,142	2,198	2,160	2,106	1,956	2,074	1,959	2,169	2,054	1,851	25,477
1971	2,175	2,053	2,266	2,195	2,203	2,235	2,044	2,256	2,137	2,341	2,190	2,026	26,136
1972	2,278	2,271	2,510	2,310	2,539	2,427	2,246	2,523	2,276	2,543	2,439	2,162	28,522
1973	2,480	2,324	2,588	2,470	2,606	2,491	2,314	2,577	2,290	2,630	2,493	2,197	29,267
1974	2,479	2,287	2,510	2,507	2,573	2,410	2,342	2,499	2,172	2,396	2,114	1,604	28,017
1975	1,838	1,855	1,858	1,891	1,989	1,952	1,885	2,140	2,146	2,434	2,223	2,077	24,452
1976	2,318	2,266	2,542	2,472	2,438	2,456	2,195	2,402	2,145	2,419	2,280	2,028	27,960
1977[1]	2,239	2,168	2,502	2,399	2,509	2,460	2,157	2,475	2,239	2,414	2,340	2,127	28,727
1978[1]	2,230	2,211	2,494	2,368	2,559	2,541	2,278	2,513	2,374	2,543	2,440	2,172	28,506
1979[1]	2,411	2,298	2,643	2,505	2,590	2,542	2,387	2,622	2,408	2,698	2,606	2,303	29,260

[1] Preliminary. *Source: National Paperboard Association*

United States Production of All Woodpulp In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
1967	3,076	2,897	3,129	3,065	3,133	2,966	2,726	3,004	2,834	3,098	2,997	2,563	36,677
1968	3,139	3,044	3,270	3,180	3,277	3,207	2,997	3,290	3,053	3,360	3,190	2,898	40,892
1969	3,249	3,049	3,418	3,433	3,603	3,536	3,329	3,558	3,379	3,647	3,594	3,263	42,813
1970	3,560	3,425	3,587	3,579	3,624	3,475	3,352	3,547	3,304	3,656	3,496	3,201	43,546
1971	3,600	3,347	3,696	3,699	3,712	3,679	3,450	3,805	3,593	4,072	3,808	3,499	43,903
1972	3,866	3,765	4,041	3,893	4,013	3,942	3,766	3,991	3,668	4,123	3,876	3,662	46,767
1973	4,054	3,743	4,217	3,983	4,189	4,058	3,928	4,181	3,849	4,185	4,104	3,748	48,327
1974	4,100	3,776	4,253	4,177	4,256	4,117	3,931	4,116	3,867	4,334	3,918	3,372	48,349
1975	3,727	3,401	3,221	3,076	3,215	3,208	3,171	3,569	3,396	3,919	3,724	3,371	43,084
1976	3,935	3,850	4,155	4,082	4,124	4,061	3,713	4,076	3,613	4,123	3,966	3,336	48,804
1977[1]	3,753	3,850	4,112	3,999	4,148	4,083	3,791	4,026	3,668	4,054	3,884	3,489	49,033
1978[1]	3,944	3,642	4,149	4,101	4,100	4,109	3,672	3,848	3,878	4,051	3,954	3,628	49,694
1979[1]	3,905	3,815	4,307	4,096	4,368	4,321	4,092	4,393	4,088	4,470	4,225	3,864	49,942

[1] Preliminary. *Source: Bureau of Census*

Stocks of Woodpulp at All[1] Mills in the U.S., at End of Month In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	751	778	805	786	809	860	827	814	808	836	813	917
1968	785	779	756	783	795	838	797	801	746	787	775	870
1969	771	807	815	862	840	857	802	790	780	787	839	796
1970	812	811	823	832	868	867	919	904	821	872	885	917
1971	913	930	974	1,045	980	1,076	1,063	1,073	1,044	1,103	1,154	1,045
1972	1,077	1,026	1,017	1,014	954	943	907	914	866	862	839	848
1973	797	791	788	777	782	807	788	736	683	707	725	874
1974	702	686	737	745	744	764	793	792	749	816	697	1,177
1975	1,111	1,133	1,225	1,222	1,271	1,258	1,231	1,140	1,041	1,124	1,113	1,158
1976	1,076	1,083	1,032	1,101	1,106	1,215	1,126	1,081	1,051	980	1,133	1,344
1977[2]	1,020	1,045	1,132	1,132	1,145	1,175	1,185	1,188	1,098	774	784	1,356
1978[2]	1,051	1,062	1,090	1,074	1,069	898	1,014	1,048	933	999	788	760
1979[2]	845	802	834	907	939	896	884	892	781	813	834	798

[1] At pulp mills; paper & board mills; & non-paper mills. [2] Preliminary. *Source: Bureau of the Census*

rated capacity, more than adequate to allow the industry to pass on cost increases and maintain profitability. Domestic and export demand was expected to be sufficient to maintain operating rates in the 91 to 92 percent range in 1980. Capacity was scheduled to be raised by 3 percent in 1980, a marked improvement over the 2.1 percent annual rate of increase over the 1970s. The producers planned to concentrate outlays on printing paper grades, increasing output by 1 million tons between 1979 and 1980.

Many foreign paper and board customers, like those in the U.S., entered 1980 on producer-imposed allocations. However, based on announced capacity additions in North America, Europe and Japan, a worldwide glut in lightweight coated papers is expected by some analysts within three or four years.

The paper industry is the foremost fuel oil consumer among manufacturing industries, using about 90 percent of its fuel for boilers for essential process steam and to generate electricity. The federal government has asked the industry to shift to coal wherever feasible. The industry already has made substantial energy savings by increasing use of spent pulping liquor, bark, and hogged wood as substitute fuels.

Shipments of (Paper Products) Shipping Containers[1] in the United States

In Millions of Square Feet Surface Area

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	18,246	14,428	15,516	15,589	15,081	15,108	15,926	15,406	16,527	17,194	13,878	11,964	185,864
1971	14,415	14,223	16,261	16,001	14,916	17,192	15,470	16,412	17,144	17,280	16,653	15,866	191,832
1972	15,453	16,302	18,358	16,579	17,676	18,939	15,427	15,858	21,482	19,721	18,643	17,158	211,926
1973	18,037	17,591	20,428	18,526	20,074	19,702	16,818	19,914	18,720	21,775	19,450	17,016	228,052
1974	19,784	18,480	19,729	19,658	19,842	17,979	17,826	18,807	17,169	18,592	15,576	12,630	216,072
1975	14,689	13,768	14,742	14,541	16,151	15,612	16,023	17,006	18,580	20,053	16,017	16,145	194,329
1976	17,509	16,836	18,976	18,253	18,209	18,526	17,406	18,182	18,633	19,073	18,097	16,672	216,371
1977[2]	16,189	17,656	19,783	18,956	19,377	19,505	17,251	19,694	20,002	19,711	19,285	17,898	227,198
1978[2]	17,880	18,669	21,555	19,970	21,772	22,060	17,601	22,301	20,531	22,608	20,354	18,599	243,898
1979[2]	20,844	19,409	22,863	20,574	21,769	20,986	19,615	22,163	20,327	23,617	20,330	18,115	250,725
1980[2]	21,935	20,452											

[1] Corrugated & solid fiber. [2] Preliminary. *Source: National Paperboard Association*

Salient Statistics of Newsprint in the United States and Canada

In Thousands of Metric[1] Tons

	United States													Canada		
			Imports—By Countries of Origin									Stocks, Dec. 31				
Year	Production	Exports	Canada	Finland	Germany	Norway	Sweden	Austria	Others	Total	Consumption	At Mills	At Publishers[2]	Production	Exports	Stocks At Mills
1970	3,310	141	6,320	308	—	—	7	—	—	6,635	9,727	33	749	8,607	7,876	236
1971	3,296	161	6,564	303	—	—	—	—	14	6,881	9,829	41	705	8,455	7,490	332
1972[3]	3,656	122	6,772	328	—	—	—	—	0	7,101	10,547	27	544	8,820	8,120	251
1973	3,738	107	6,855	381	—	—	—	—	0	7,236	10,794	24	603	9,140	8,340	193
1974	3,561	103	6,949	213	—	—	—	—	—	7,162	10,284	23	827	9,548	9,075	143
1975	3,691	123	5,488	33	—	—	—	—	—	5,521	9,254	21	734	7,679	6,863	95
1976	3,736	95	6,251	57	—	—	—	—	—	6,308	9,611	29	921	8,915	7,827	299
1977[4]	3,512	117	5,751	0	—	—	—	—	—	5,751	9,279	31	722	8,154	7,345	282
1978	3,418	75	6,428	0	—	—	—	—	—	6,428	9,864	20	660	8,811	7,974	203
1979[1]	3,685	65	6,372						132	6,504	10,197	16	628	8,756	7,809	178

[1] Preliminary. [2] Reporting only to A.N.P.A.; group represents about 75%. [3] Beginning 1972 data is for 30 lb. basis. [4] Data prior to 1977 are in THOUSANDS OF SHORT TONS. *Source: Newsprint Service Bureau, A.P.I.*

Average Price of Newsprint Rolls[1]

Index—1967 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Average
1970	150.50	150.50	150.50	150.50	150.50	150.50	150.50	150.50	150.50	150.50	150.50	150.50	150.50
1971	109.9	109.9	109.9	113.0	113.0	113.0	113.0	113.0	113.0	113.0	113.0	113.0	112.2
1972	114.2	115.6	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	116.7
1973	117.0	119.2	120.4	121.0	121.0	121.0	121.6	121.6	122.1	122.1	128.9	130.8	122.2
1974	132.3	132.3	139.9	147.2	147.2	148.6	148.6	160.8	164.4	164.4	164.4	164.4	151.2
1975	181.8	181.8	181.8	184.7	184.7	184.7	184.7	184.7	184.7	184.7	184.7	184.7	184.0
1976	184.7	184.7	190.1	193.1	197.9	197.9	202.7	203.3	205.3	205.3	205.3	207.6	198.2
1977	209.4	209.4	216.7	216.7	216.7	216.7	216.7	216.7	216.7	216.7	216.7	216.7	215.4
1978	216.7	216.7	216.7	228.2	228.2	228.2	228.2	230.5	230.5	230.5	230.5	230.5	226.3
1979	230.5	238.9	241.7	244.7	247.7	247.7	247.7	247.7	247.7	262.1	265.1	268.2	249.1
1980	268.2	268.4	269.4										

[1] Data for 1970 are prices for standard rolls, contract, delivered to principal ports.
Source: Bureau of Labor Statistics (0913–0291.02)

U.S. Production & Consumption of Wood Pulp, Pulpwood & Other Fibrous Materials in the Manufacture of Paper & Board In Thousands of Short Tons[6]

Year	Wood Pulp Production												Consumption in the Manufacture of Paper and Board		
		Sulfite		Sulfate											
	Special Alpha[2]	Bleached	Unbleached	Bleached	Semi-Bleached	Unbleached	Soda	Groundwood	Semi-Chemical	Defibrated[3]	Screenings, Damaged, etc.	Total Wood Pulp	Wood Pulp[4]	Other Fibrous Materials[5]	Pulpwood[6]
1968	1,679	2,046	388	9,945	1,602	15,608	225	4,178	3,491	1,281	289	40,892	41,303	11,127	62,091
1969	1,676	1,893	391	10,679	1,721	16,209	241	4,416	3,620	1,294	291	42,813	43,700	11,817	65,892
1970	1,705	1,931	413	11,348	1,906	16,217	218	4,404	3,297	—2,105—		43,546	43,192	11,423	67,562
1971	1,674	1,809	354	11,684	1,557	16,309	208	4,462	3,473	—2,372—		43,903	44,148	11,875	67,157
1972	1,656	1,827	345	12,460	1,574	17,792	184	4,639	3,786	—2,502—		46,767	47,347	12,595	71,538
1973	1,637	1,810	374	13,055	1,826	18,165	188	4,670	3,864	—2,740—		48,327	48,772	13,257	73,596
1974	1,723	1,804	405	13,705	1,672	17,635	200	4,711	3,758	—2,736—		48,349	48,341	12,936	74,327
1975	1,583	1,594	357	12,448	1,396	15,369	N.A.	4,351	3,201	—2,785—		43,084	42,385	10,968	65,421
1976	1,443	1,599	435	13,696	1,298	17,784	N.A.	4,649	3,576	—3,242—		47,421		12,616	72,011
1977	1,401	1,595	405	14,307	1,253	18,446	N.A.	4,753	3,569	—3,306—		49,033		12,689	73,971
1978[1]	1,415	1,429	329	17,050	N.A.	18,689	N.A.	4,216	3,948	N.A.		47,075		13,903	77,290
1979[7]	1,499	1,500	400	18,500	N.A.	20,000	N.A.	4,447	4,632	N.A.		49,942		14,500	79,633

[1] Preliminary. [2] Also includes dissolving grades. [3] Or exploded. [4] Does not include wood pulp consumption by plants classified outside paper & board industries. [5] Waste paper; straw; rags; cotton fibre; manila stock; etc. [6] Data for pulpwood expressed in thousands of cords of 128 cu. ft.—roughwood basis. Pulpwood includes slabs; chips; & millwaste. [7] Estimate.
Sources: Bureau of the Census; American Paper Inst.

U.S. Foreign Trade in Pulpwood, Wood Pulp, Paper, Paper Board & Paper Products
In Thousands of Short Tons

Year	Exports							Imports							
	Wood Chips	Wood Pulp	Waste Fibrous Mater.[3]	Paper	Paper Board	Construction P. & B.	Converted Paper & Board	Pulpwood Chips	Wood Pulp	Waste Fibrous Mater.	Paper	Paper Board	Construction P. & B	Paper & BD. Products	Total Value of Imports Mill. $[4]
1968	1,068	1,915	253	528	1,887	48	132	1,091	3,532	156	6,723	17	255	20	1,449
1969	1,471	2,103	289	517	2,023	59	137	620	4,040	139	7,121	11	275	29	1,615
1970	2,615	3,095	408	534	2,100	59	145	870	3,518	114	7,018	10	201	29	1,603
1971	1,926	2,175	419	549	2,377	65	156	1,202	3,515	113	7,268	17	293	33	1,638
1972	2,524	2,237	415	569	2,288	79	166	978	3,773	132	7,519	8	461	39	1,791
1973	3,466	2,344	683	601	2,129	98	231	1,254	3,993	133	7,928	33	452	57	2,177
1974	3,866	2,806	1,307	923	2,471	125	348	818	4,123	133	7,874	34	339	62	2,964
1975	3,177	2,565	861	947	1,808	115	301	626	3,078	134	6,118	8	176	39	2,678
1976	3,947	2,518	1,273	928	2,142	128	325	1,051	3,727	163	6,963	13	264	65	3,295
1977	4,038	2,640	1,544	724	2,129	109	333	1,386	3,864	148	7,065	28	346	201	3,568
1978[1]	3,618	2,599	1,599	552	2,299	82	520	1,791	4,025	127	8,395	52	503	327	3,992
1979[2]	4,300	2,935	2,000	530	2,400	90	550	1,500	4,318	125	8,500	41	490	320	4,500

[1] Preliminary. [2] Estimates. [3] Excludes rags for paperstock. [4] Paper base stocks, paper and manufactures.
Source: Dept. of Commerce

Paper and Board Production in the United States In Thousands of Short Tons

Year	Paper							Paperboard				Wet Machine Board	Construction[3]		Total All Types
	Newsprint	Coated Printing	Book	Writing & Relat.	Coarse[2]	Sanitary Tissue	All Paper Total	Other Bleached Paperboard	Corrugating Material	Liner Board	All Paperboard Total		Construction (Paper)	All Construction Total	
1968	2,956	3,134	2,585	2,732	5,398	3,157	22,398	1,754	4,143	10,550	24,504	155	1,573	4,188	51,245
1969	3,253	3,349	2,654	2,989	5,521	3,341	23,595	1,815	4,485	11,559	26,069	145	1,603	4,376	54,187
1970	3,345	3,279	2,646	2,937	5,439	3,548	23,675	1,856	4,332	11,436	25,477	139	1,594	4,276	53,516
1971	3,321	3,251	2,758	2,996	5,442	3,660	23,811	1,938	4,596	11,700	26,135	138	1,837	5,001	55,086
1972	3,451	3,546	3,010	3,329	5,713	3,796	25,435	1,964	4,992	13,030	28,522	148	1,915	5,352	59,457
1973	3,459	3,814	3,116	3,817	5,694	3,726	26,483	1,971	5,285	13,139	29,267	149	1,858	5,406	61,304
1974	3,395	3,974	2,832	4,102	5,731	3,800	26,651	1,957	5,093	12,755	28,017	144	1,845	5,118	59,930
1975	3,476	3,318	2,400	3,244	4,805	3,669	23,306	1,792	4,411	11,170	24,452	115	1,616	4,648	52,521
1976	3,400	3,967	2,984	3,910	5,661	3,936	26,612	1,894	5,316	12,501	27,840	130	1,771	5,316	59,898
1977	3,525	4,189	3,070	4,132	5,702	4,068	27,491	1,974	5,523	13,241	28,727	128	1,851	5,523	61,869
1978[1]	3,535	4,514	3,338	4,289	5,474	3,786	27,729	1,634	5,505	13,479	28,723	109	1,956	5,505	62,066
1979[4]	3,600	4,600		4,200	5,500	4,000	29,260	1,700	5,456		30,014	145	1,900	5,456	64,000

[1] Preliminary. [2] Packaging & industrial converting paper. [3] Paper and board. [4] Estimate. *Source: Bureau of the Census*

Average Price of Wood Pulp, Unbleached Sulphate[1] In Dollars Per Ton

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50
1970	144.13	144.13	144.13	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	144.13
1971	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13
1972	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13	150.13
1973	150.13	150.13	150.13	170.00	N.A.	N.A.	188.00	181.25	181.25	206.50	206.50	206.50	179.04
1974	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1975[2]	364.13	364.13	364.13	364.13	364.13	358.11	364.13	364.13	364.13	364.13	364.13	366.50	363.83
1976	366.50	366.50	366.50	366.50	366.50	366.50	367.15	365.06	365.06	365.06	365.06	365.06	365.95
1977	360.93	364.64	364.64	364.64	368.54	368.54	368.54	368.54	357.57	354.75	N.A.	N.A.	364.13
1978	350.76	341.15	341.15	330.52	327.66	327.66	306.73	306.73	306.73	339.91	336.97	336.97	329.41
1979	345.85	346.91	358.68	363.48	363.48	373.36	377.45	383.87	383.87	413.59	413.59	413.59	377.89

[1] Data are for domestic, unbleached, southern, f.o.b. shipping points. [2] Bleached sulphate softwood, beginning Jan. 1975.
Source: Bureau of Labor Statistics (0911-0211.06)

Average Price of Uncoated Book Paper[1] (A-Grade) In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	18.38	18.38	18.38	18.38	18.54	18.70	18.70	18.70	18.70	18.70	19.19	19.19	18.66
1970	19.19	19.36	19.36	19.36	19.36	19.36	19.36	19.36	19.36	20.01	20.01	20.01	19.51
1971	20.01	20.01	19.23	19.23	19.23	19.23	18.74	18.74	18.74	18.74	18.74	18.74	19.12
1972	18.74	18.74	18.74	18.62	18.62	18.62	18.68	18.68	18.68	18.80	18.80	18.80	18.71
1973	18.80	18.80	19.05	19.17	19.17	19.29	19.29	19.29	19.29	19.78	19.78	19.78	19.29
1974	20.03	20.03	21.19	23.03	23.03	23.28	25.11	25.81	25.92	27.08	27.08	27.08	24.06
1975[2]	28.54	28.62	28.70	28.64	28.54	28.52	28.56	28.54	28.57	28.52	28.80	29.20	28.40
1976	29.88	29.88	24.81	25.18	25.48	25.48	31.18	31.21	31.20	31.85	32.32	32.15	29.22
1977	32.23	32.50	32.46	33.20	33.43	33.38	33.92	33.83	33.94	34.99	35.03	35.08	33.67
1978	34.98	35.02	35.90	36.32	36.49	36.80	36.82	37.08	37.42	38.21	39.26	39.34	36.97
1979	39.45	39.80	39.94	40.33	40.61	40.76	40.77	40.64	41.00	41.92	41.96	41.94	40.76

[1] Book paper, A-Grade, English finish, white sheets untrimmed, cased, carload lots, f.o.b. mills. [2] Coated paper No. 3.
Source: Bureau of Labor Statistics (0913-0113.06)

Average Price of Manila Wrapping Paper[1] Index 1967 = 100[2]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1972	11.67	11.67	11.67	11.86	11.86	12.01	12.01	12.01	12.01	12.01	12.38	12.38	11.96
1973	13.81	13.81	13.81	13.95	13.95	14.90	14.51	14.51	14.31	14.31	14.31	14.31	14.21
1974	14.46	14.46	14.46	15.68	15.68	15.68	15.99	N.A.	N.A.	N.A.	N.A.	N.A.	15.20
1975	21.71	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	21.71
1976[2]	205.9	209.7	209.7	209.6	209.7	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.4
1977	208.0	208.0	208.0	211.3	214.6	214.6	214.6	214.6	214.6	216.2	217.8	217.8	213.3
1978	217.8	217.8	217.8	217.8	217.8	222.0	228.2	228.2	228.2	234.3	238.5	238.5	225.6
1979	238.5	238.5	238.5	238.5	241.9	246.1	246.1	246.1	241.9	241.9	248.9	248.9	243.0

[1] Unbleached kraft wrapping paper, basis weight 30 lb. rolls. F.O.B. mills. Prior to Jan. 1973 prices are for SOUTHERN STANDARD (KRAFT). [2] Data prior to 1976 are in CENTS PER POUND. *Source: Bureau of Labor Statistics* (0913-0151.05)

Average Price of Boxboard[1] In Dollars Per Ton

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	142.93	142.93	142.93	142.93	142.93	142.93	142.93	145.41	145.41	145.41	145.41	145.41	143.96
1970	145.41	145.41	145.41	145.41	144.17	144.17	144.17	144.17	147.88	147.88	147.88	147.88	145.82
1971	147.88	147.88	147.88	147.88	147.88	147.88	147.88	147.88	147.88	149.12	149.12	149.12	148.19
1972	149.12	155.31	155.31	155.31	155.31	155.31	155.31	155.31	155.31	155.31	155.31	155.31	154.79
1973	155.31	157.16	157.16	162.11	163.35	164.59	164.59	164.59	164.59	170.16	173.87	173.87	187.28
1974	202.95	202.95	217.80	224.40	231.00	231.00	231.00	234.30	234.30	234.30	234.30	232.65	225.91
1975[2]	205.27	205.27	205.27	203.62	203.63	203.63	203.63	203.63	203.63	203.63	203.63	203.63	204.04
1976	203.63	203.63	203.63	203.63	203.63	210.27	211.92	211.92	211.92	211.92	211.92	211.92	208.34
1977	211.92	211.92	211.92	211.92	211.92	216.87	216.87	216.87	216.87	216.87	218.53	218.53	215.08
1978	218.53	220.18	221.83	221.83	221.83	221.83	221.83	221.83	221.83	223.48	223.48	225.13	221.97
1979	225.13	228.43	N.A.	N.A.	311.03	311.03	320.60	322.25	322.25	328.85	328.85	335.78	303.42

[1] Manila lined chip boxboard, No. 90 or heavier, eastern territory. [2] Beginning 1975 prices are for BENDING CHIPBOARD (Folding Boxboard). *Source: Bureau of Labor Statistics* (0914-0225.02)

Peanuts and Peanut Oil

World peanut production in 1979/80 was estimated by the Foreign Agricultural Service of the USDA, in April 1980, at 18.6 million tonnes, slightly larger than estimated 1978/79 output and the 1972/73–1976/77 average of about 18.4 million tonnes. World peanut oil production in 1979/80 (calculated on the basis of assumed extraction rates applied to the portion of the crop available for crushing and/or export—not actual production) was estimated by the USDA at close to 3.4 million tonnes, compared with over 3.4 million tonnes in 1978/79. Major producers were India (the top-producer by far), the Republic of China, and the United States, followed by Senegal and the Sudan. In recent years, Senegal has been a leading exporter of peanut oil and meal, and India, at times, has been a large shipper of peanut meal. The U.S. is a major exporter of peanuts.

U.S. peanut supplies for the 1979/80 marketing season ending July 31, 1980, were estimated by the USDA at 4.6 billion pounds (farmers' stock basis), about the same as output in 1978/79.

Use of peanuts for food in the United States reached a record 2.0 billion pounds in 1978/79, 8 percent over the previous season and equal to more than 9 pounds per person (in-shell basis). Further increases in edible uses of peanuts were expected for 1979/80 as peanut prices continued relatively low compared with competitive foods, although the rate of gain could be slightly less than in 1978/79.

U.S. peanut exports were at record high levels in the past two seasons, totaling more than 1.1 billion pounds in 1978/79. U.S. peanuts were competitively priced in world markets, while supplies from India and other major exporting countries were reduced. Although total export demand in 1979/80 was expected to be somewhat less than the previous season's record, the outlook early in 1980 was for another good export year for edible peanuts.

Government Activities

On November 30, 1979, the USDA announced the national poundage quota for 1980-crop peanuts at 1,516,000 short tons and the national acreage allotment at 1,614,000 acres—each being the minimum required by law. Under the peanut price support program, farms are assigned an acreage allotment and a poundage quota, and only peanuts grown on alloted acreage are eligible for price support.

There are two levels of price support for peanuts, one for "quota" peanuts and another, lower level, for "additional" peanuts. Peanuts grown on alloted acres and within the farm's poundage quota are "quota" peanuts. Those grown on alloted acres, but in excess of the farm's quota, are "additional" peanuts.

The 1980-crop national average support levels are $455 per short ton (the statutory minimum) for quota peanuts and $250 per short ton for non-quota "additional" peanuts, with no deduction from the loan advance for storage, handling and inspection costs. In 1979, quota and additional peanuts grown within farm acreage allotments were supported at the national average support levels of $420 and $300 per short ton, respectively.

Price support is carried out primarily through nonrecourse warehouse-storage loans to approved grower associations acting for farmers. Also, the price may be supported through loans to producers on farm-stored peanuts and purchases from producers. Loans for the 1980-crop of warehouse-stored peanuts are available through January 31, 1981 and through April 30, 1981 for farm-stored peanuts.

Marketing quotas are in effect for 1980-crop peanuts. Marketing quota penalties apply to peanuts grown in excess of the acreage allotment and also to peanuts marketed in excess of the farm's poundage quota.

Domestic Sales Policies

Sales of quota and additional peanuts for domestic edible use, including use for seed, will be made by CCC at not less than 105 percent of the quota loan rate, plus costs, if sold on or before Dec. 31, or 107 percent of the quota loan value plus costs if sold after that date. Farmers stock peanuts will be sold by CCC for edible export at no less than $455 per ton, plus costs, for quota peanuts and no less than $435 per ton for additional peanuts.

Export Sales Policies

On export sales of 1980 crop peanuts sold for crushing only, the CCC sales price will be at no less than $455 per ton, plus costs, on quota peanuts and no less than $250 per ton plus costs, for additional peanuts. Peanuts sold for export crushing must be fragmented before export.

World Production of Peanuts (in the Shell) In Thousands of Metric Tons

Crop Year	Argentina	Zaire (Congo)	Brazil	Burma	China[2]	Senegal	India	Indonesia	Thailand	Sudan	Nigeria	Taiwan	United States	South Africa	World Total
1968–9	283	161	754	398	2,150	830	4,631	410	158	—	1,445	106	1,155	224	15,525
1969–0	217	200	754	444	2,350	800	5,130	382	180	—	1,360	101	1,150	343	16,513
1970–1	234	180	928	529	2,650	545	6,111	402	185	—	780	122	1,351	303	17,431
1971–2	388	180	849	486	2,580	920	6,181	400	200	—	845	98	1,363	385	18,121
1972–3	252	180	893	390	2,400	610	4,092	389	203	—	1,125	94	1,485	400	15,690
1973–4	440	200	590	234	2,600	485	5,932	434	210	—	100	97	1,576	197	16,216
1974–5	290	230	439	466	2,700	980	5,111	439	230	—	530	94	1,664	533	17,384
1975–6	375	268	335	450	2,700	1,424	6,755	542	260	—	332	91	1,750	256	18,912
1976–7[1]	338	289	514	450	2,750	1,182	5,262	475	272	—	350	89	1,701	146	17,121
1977–8[3]	370	289	340	450	1,900	670	6,090	450	275	1,020	643	90	1,690	230	16,910
1978–9[3]	670	—	450	—	2,220	1,150	6,390	—	—	830	—	—	1,810	187	18,320
1979–0[3]	420	—	470	—	2,600	1,100	5,700	—	—	1,100	—	—	1,800	285	18,260

[1] Preliminary. [2] Includes Manchuria. [3] Estimated. *Source: Foreign Agricultural Service, U.S.D.A.*

Salient Statistics of Peanuts in the United States

Crop Year	Acreage Planted	Total Acreage[1]	Acreage Harvested For Nuts	Average Yield Per Acre In Lbs.	Production Picked and Threshed 1,000 Lbs.	Season Farm Price ¢ Lb.	Farm Value Million Dollars	Thousand Pounds (Yr. Beg. Aug.)			
	(1,000 Acres)							Exports		Imports	
								Unshelled	Shelled	Unshelled	Shelled
1967–8	1,474	—	1,404	1,765	2,477,255	11.4	282,107	363	148,295	1,708	557
1968–9	1,496	—	1,438	1,770	2,546,591	11.9	303,726	992	79,623	871	769
1969–0	1,512	—	1,456	1,742	2,535,394	12.3	312,358	1,530	100,051	201	335
1970–1	1,518	—	1,469	2,030	2,983,121	12.8	382,503	6,436	213,027	1,269	204
1971–2	1,529	—	1,455	2,066	3,005,118	13.6	408,371	35,801	403,397	1,299	859
1972–3	1,533	—	1,486	2,203	3,274,761	14.5	475,367	4,369	385,588	1,039	443
1973–4	1,530	—	1,496	2,323	3,473,837	16.2	562,460	66,094	523,986	79	444
1974–5	1,520	—	1,472	2,491	3,667,604	17.9	657,574	17,703	548,083	127	466
1975–6	1,532	—	1,504	2,565	3,857,122	19.6	756,530	22,708	318,229	207	290
1976–7	1,549	—	1,522	2,465	3,750,890	20.0	750,260	24,765	580,496	432	66
1977–8[2]	1,545	—	1,516	2,457	3,726,015	21.0	783,302	64,284	711,776	379	52
1978–9[2]	1,544	—	1,512	2,639	3,988,624	21.1	841,568				
1979–0[3]	1,551	—	1,525	2,607	3,976,140	20.7	821,313				
1980–1											

[1] Acreage grown alone plus approximately one-half the interplanted acres. [2] Preliminary. [3] Estimate.
Source: Economic Research Service, U.S.D.A.

Supply & Disposition (Farmers' Stock Basis) & Support Program

Crop Year Begin. Aug. 1	Supply				Disposition						Government Support Program				
								Domestic Food Use					Amount Put under Support		
	Production[3]	Imports	Stocks Aug. 1	Total	Exports & Shipments	Crushed for Oil	Seed, Feed & Residual	Military	Civilian	Civilian per Capita (Lbs.)	Support Price ¢ Lb.	% of Parity	Quantity Mil. Lbs	% of Prod.	Owned by CCC July 31 Mi. Lbs.
	Million Pounds														
1967–8	2,477	2	372	2,851	198	644	156	3	1,493	7.6	11.35	75	685	27.7	12
1968–9	2,547	2	353	2,902	105	654	243	3	1,536	7.7	12.012	78	699	27.4	—
1969–0	2,535	1	357	2,893	140	581	237	3	1,574	7.8	12.375	76	622	24.5	—
1970–1	2,983	2	353	3,338	290	799	209	3	1,580	7.8	12.75	75	1,084	36.3	11
1971–2	3,005	2	453	3,460	552	814	79	—	1,623	7.9	13.425	75	1,238	41.2	4
1972–3	3,275	2	392	3,669	521	850	175	—	1,694	8.2	14.25	75	1,277	39.0	24
1973–4	3,474	1	429	3,904	709	683	119	—	1,840	8.8	16.425	75	1,029	29.6	0
1974–5	3,668	1	553	4,222	740	590	-54	—	1,800	8.5	18.30	75	1,072	29.2	552
1975–6	3,857	1	1,146	5,004	434	1,447	193	—	1,870	8.7	19.725	75	1,136	29.5	958
1976–7	3,751	1	1,060	4,811	783	1,108	513	—	1,809	8.4	20.70	75	854	22.8	0
1977–8	3,726	1	608	4,336	1,025	487	392	—	1,850	8.5	21.525	75	535	14.4	2
1978–9[1]	3,989	1	581	4,571	1,140	527	315	—	1,996	9.2	21.00	67	515	12.9	
1979–0[2]	3,976	1	593	4,570	1,000	575	295	—	2,100	9.5	21.00				
1980–1															

[1] Preliminary. [2] Estimate. [3] Production is on a net weight basis. *Source: Economic Research Service, U.S.D.A.*

U.S. Production of Peanuts—Harvested for Nuts, by States In Millions of Pounds

Crop Year	Alabama	Arkansas	Florida	Georgia	Louisiana	Mississippi	New Mexico	No. Car.	Oklahoma	So. Car.	Tennessee	Texas	Virginia	U.S. Total
1967	235.8	—	78.9	975.1	—	1.6	15.9	347.4	209.1	24.4	—	333.5	255.5	2,477
1968	246.2	—	85.7	934.4	—	1.8	17.7	346.5	227.5	24.0	—	426.8	236.6	2,547
1969	285.2	—	85.1	946.3	—	3.2	17.5	343.2	204.0	24.8	—	389.1	237.2	2,535
1970	315.4	—	110.0	1,125.5	—	4.4	18.3	445.9	192.0	29.6	—	429.9	312.1	2,983
1971	401.6	—	139.9	1,269.9	—	16.5	16.6	325.5	219.0	30.0	—	366.8	219.5	3,005
1972	368.4	—	137.7	1,341.4	—	16.0	20.5	370.2	242.7	31.8	—	480.5	265.7	3,275
1973	400.0	—	150.4	1,344.0	—	16.6	18.9	466.5	253.7	30.1	—	471.2	322.4	3,474
1974	474.4	—	170.5	1,661.5	—	6.0	13.0	384.3	217.7	31.0	—	413.3	295.9	3,668
1975	535.6	—	177.7	1,726.6	—	13.5	20.2	373.7	232.3	29.5	—	463.6	284.6	3,857
1976	513.6	—	165.0	1,554.3	—	12.3	21.7	440.7	246.0	24.6	—	463.6	309.0	3,751
1977	589.1	—	170.5	1,499.1	—	11.6	25.4	444.1	267.6	31.2	—	394.5	293.0	3,726
1978	562.8	—	182.5	1,735.8	—	16.0	24.1	469.0	207.0	35.7	—	436.5	319.3	3,989
1979[1]	599.6	—	179.9	1,707.5	—	16.2	23.5	373.5	270.0	31.9	—	516.0	258.1	3,976
1980														

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

PEANUTS AND PEANUT OIL

Visible Supply (Stocks) of Peanuts and Products on Hand in the U.S. In Millions of Pounds

Year Begin. Aug. 1	Farmers' Stock Peanuts[2]				Shelled Edibles				Shelled Oil Stock[3]	Total Shelled	Roasting Stock[5]	Crude Peanut Oil[4]	Peanut Cake & Meal[4]
	Virginias	Runners	Spanish	Total	Virginias	Runners	Spanish	Total					
1967–8	.1	—	6.4	6.5	126.3	59.0	60.3	245.7	19.1	264.8	13.6	12.5	19.1
1969–0	.7	.6	3.6	9.1	103.4	67.0	56.4	226.8	23.4	250.2	14.9	9.5	8.9
1970–1	2.4	0	.5	2.8	105.8	65.4	67.1	238.3	12.7	251.0	16.1	8.8	7.7
1971–2	3.2	4.0	7.0	14.2	126.9	81.1	83.0	291.0	27.1	318.0	16.0	11.8	21.6
1972–3	3.4	8.2	15.7	27.4	66.9	90.7	67.0	224.5	33.8	258.3	20.9	8.5	3.0
1973–4	2.9	48.7	5.2	56.9	45.2	122.0	73.5	240.6	25.6	266.3	17.7	11.7	7.0
1974–5	3.8	30.4	4.2	38.4	87.3	209.5	62.9	359.8	16.2	375.9	15.1	10.9	6.8
1975–6	16.4	193.8	16.8	227.0	89.3	129.9	60.2	279.4	20.7	300.1	17.8	18.3	10.4
1976–7	4.0	244.0	1.9	250.0	68.5	159.9	87.2	315.7	83.2	398.8	30.6	22.9	5.9
1977–8	2.0	49.4	3.0	54.4	62.1	255.0	55.4	372.5	29.8	402.3	18.2	42.6	11.7
1978–9	8.0	20.0	.6	28.7	62.5	251.6	44.8	359.0	37.4	396.4	25.6	14.5	10.9
1979–0[1]	7.2	5.9	.3	13.5	87.7	214.2	46.1	348.0	46.4	394.4	48.2	17.2	1.0
1980–1													

[1] Preliminary. [2] Excludes stocks on farms, but includes stocks owned or held for account of C. C. C. [3] Includes ungraded or straight run peanuts. [4] Relates to peanut oil mills only. [5] Cleaned & unshelled. *Source: Agricultural Marketing Service, U.S.D.A.*

Average Price Received by Producers in U.S. for Peanuts in the Shell In Cents Per Pound

Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average[1]
1967–8	11.5	11.3	11.5	11.1	11.3	11.3	11.5	11.4	—	—	—	12.0	11.4
1968–9	11.6	12.1	11.9	12.0	11.8	11.9	11.8	—	—	—	—	12.0	11.9
1969–0	12.1	12.4	12.3	12.5	12.1	12.1	12.1	—	—	—	—	12.2	12.2
1970–1	12.9	13.2	12.3	11.9	13.0	12.0	—	—	—	—	—	12.9	12.6
1971–2	13.5	13.8	13.6	13.9	—	—	—	—	—	—	—	13.0	13.6
1972–3	14.8	14.3	14.3	14.3	14.2	—	—	—	—	—	—	15.0	14.5
1973–4	16.1	16.4	16.1	16.5	16.6	—	—	—	—	—	—	17.7	16.2
1974–5	17.9	18.1	17.6	17.8	17.6	—	—	—	—	—	—	18.4	17.9
1975–6	19.7	19.8	19.6	18.7	—	—	—	—	—	—	—	19.1	19.6
1976–7	19.8	19.9	20.0	20.0	20.2	—	—	—	—	—	—	21.3	20.0
1977–8	20.9	20.9	20.4	20.4	21.5	—	—	—	—	—	—	21.2	21.0
1978–9	20.8	21.4	21.0	20.8	21.2	—	—					21.1	21.1
1979–0	21.4	21.0	20.3	20.5	20.6	—	—						
1980–1													

[1] Weighted average by sales. *Source: Crop Reporting Board, U.S.D.A.*

Millings and Production of Peanuts and Products in the U.S. In Millions of Pounds

Year Begin. Aug. 1	Millings				Production									
	Farmers' Stock Peanuts[2]				Shelled Edibles				Shelled Oil Stock	Total All Grades	Cleaned (In Shell)	Shelled Peanuts Crushed	Crude Peanut Oil	Peanut Cake & Meal
	Virginias	Runners	Spanish	Total	Virginias	Runners	Spanish	Total						
1968–9	700.1	583.5	991.4	2,275	342.4	333.7	575.9	1,252	352.1	1,604	103.4	491.4	205.2	275.2
1969–0	768.0	496.6	1,003	2,268	393.8	307.2	583.9	1,285	315.7	1,601	107.0	437.1	182.0	243.8
1970–1	880.4	692.9	1,043	2,616	442.0	371.1	560.0	1,373	482.3	1,855	119.1	600.9	253.5	340.4
1971–2	675.1	1,066	909.5	2,650	303.0	565.3	517.3	1,386	518.7	1,904	121.0	612.3	260.0	334.4
1972–3	689.1	1,288	911.4	2,888	284.9	666.7	551.6	1,503	567.1	2,070	113.3	638.8	269.0	359.8
1973–4	784.2	1,398	869.1	3,051	378.2	778.4	522.0	1,679	509.3	2,188	149.5	513.6	213.9	285.0
1974–5	636.1	1,646	641.3	2,923	283.3	892.2	381.6	1,557	558.4	2,116	132.2	443.7	188.4	245.6
1975–6	663.6	2,213	584.6	3,462	283.5	966.5	340.9	1,591	914.7	2,506	154.8	1,088	476.0	601.2
1976–7	669.7	2,356	429.9	3,455	271.6	1,212	273.8	1,757	729.8	2,487	150.8	833.2	362.6	466.5
1977–8	734.0	2,246	368.7	3,349	284.2	1,383	214.8	1,882	468.8	2,350	198.1	366.2	151.0	208.1
1978–9[1]	805.5	2,272	346.4	3,424	320.4	1,413	210.5	1,944	436.0	2,380	233.5	396.0	164.3	218.0
1979–0														

[1] Preliminary. [2] For prod. of shelled edible grades, oil stock (including ungraded or straight run peanuts) and roasting stock. *Source: Agricultural Marketing Service, U.S.D.A.*

Disappearance and Reported Uses of Peanuts and Products in the U.S. In Millions of Pounds

Year Begin. Aug. 1	Apparent Disappear.[2] (Milled Peanut Prod.) — Shelled Peanuts						Reported Used (Shelled Peanuts—Raw Basis) — Edible Grades Used in — Peanut							
	Edible Grades	Oil Stock[3]	Total All Grades	Cleaned (In Shell)	Crude Peanut Oil[4]	Cake & Meal[4]	Candy	Salted	Butter Sandwiches	Butter[5]	Other Products	Total	Oil Stock Crushed For Oil, Cake & Meal	Total All Grades
1967–8	1,299	338.0	1,637	91.5	204.6	276.3	216.1	232.6	22.4	513.7	17.2	1,002	484.0	1,486
1968–9	1,245	357.2	1,602	103.9	202.7	275.5	226.4	240.0	22.1	524.8	18.5	1,032	491.4	1,523
1969–0	1,273	326.4	1,600	105.8	182.7	245.0	236.4	240.9	21.7	540.5	21.1	1,061	437.1	1,498
1970–1	1,320	467.9	1,788	119.2	250.5	326.5	243.2	238.8	25.3	540.4	17.6	1,065	600.9	1,666
1971–2	1,452	512.0	1,964	116.1	263.3	353.0	246.0	241.7	25.6	556.8	17.0	1,087	612.3	1,699
1972–3	1,487	575.3	2,062	116.6	265.7	355.8	259.8	254.4	25.6	578.1	17.6	1,136	638.8	1,774
1973–4	1,559	518.8	2,078	152.1	214.7	285.1	251.5	284.3	23.9	660.0	19.3	1,239	513.6	1,753
1974–5	1,637	551.0	2,188	129.4	181.0	242.0	217.0	278.3	20.4	651.0	14.4	1,181	443.7	1,625
1975–6	1,555	852.2	2,407	142.0	471.3	605.8	239.7	301.6	21.0	648.1	16.0	1,226	1,088	2,314
1976–7	1,700	783.2	2,483	163.2	342.9	460.7	235.0	253.8	24.2	617.9	[illegible]	1,149	833.2	1,982
1977–8	1,895	461.2	2,356	190.6	179.1	208.9	235.2	274.2	28.2	623.8	18.7	1,180	366.2	1,546
1978–9[1]	1,955	426.9	2,382	210.9	161.6	227.9	268.4	291.6	28.1	664.9	19.1	1,272	396.0	1,668
1979–0														

[1] Preliminary. [2] Includes in transit, exports and domestic use, except for oil stock for which disappearance is assumed to equal crushings. [3] Graded & ungraded oil stock only. [4] Relates to peanut oil mills only. [5] Peanuts used in peanut butter by mfrs. for own use in candy is included under peanut candy. *Source: Statistical Reporting Service, U.S.D.A.*

World Imports of Peanut Oil (Crude & Refined) into Specified Countries In Thousands of Metric Tons

Year	Algeria	Australia	Austria	Belgium-Lux.	Venezuela	Canada	Dominican Rep.	France	West Germany	Hong Kong	Singapore	Netherlands	Spain	Portugal	United Kingdom
1967	.5	8.1	5.7	14.0	—	12.1	—	165.5	51.1	12.9	4.1	13.5	8.6	9.2	104.9
1968	1.0	5.9	6.7	14.1	—	12.6	—	159.7	55.2	14.2	5.2	9.9	8.4	8.2	126.7
1969	.5	4.6	6.3	17.1	—	8.4	.5	134.9	57.0	14.0	5.0	8.6	5.6	5.1	85.2
1970	.9	6.9	4.0	21.4	—	8.8	5.5	142.6	52.3	12.3	6.1	9.4	3.3	6.7	95.8
1971	0	4.7	4.4	28.5	4	5.3	17	124.0	54.7	15.0	4.8	11.1	1.8	3.6	67.8
1972	13	4.3	4.3	32.9	2	7.4	17	205.9	71.5	15.5	3.6	9.2	6.3	8.3	60.8
1973	30	2.4	4.7	32.0	15	7.4	14.1	167.3	66.3	16.2	4.0	20.0	2.9	5.5	74.8
1974	1	4	3	23	5	6	4	142	51	12	6	15	2	2	37
1975	0	3	3	21	32	7	4	179	38	16	1	9	13	6	29
1976[1]	6	2	2	31	38	7	16	218	37	20	3	8	—	—	20
1977[1]	5	4	2	29	54	7	15	217	37	23	2	8	—	0	16
1978															

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

Crude Peanut Oil Produced[2] in the United States In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1972	28.5	25.4	24.8	23.5	24.0	19.7	16.6	17.8	12.0	17.4	24.6	23.4	257.8
1973	24.5	23.4	28.0	23.3	25.4	25.4	23.7	17.7	16.5	17.7	19.2	21.1	265.9
1974	22.3	18.7	19.6	17.9	16.2	14.2	12.8	8.2	7.2	15.9	16.0	16.1	185.0
1975	17.7	12.8	12.1	13.3	17.2	22.8	29.2	29.1	33.6	34.6	27.6	25.3	275.3
1976	26.6	32.6	42.2	49.1	55.9	66.5	47.6	41.5	38.9	31.5	24.6	24.0	481.0
1977[1]	20.8	24.5	35.3	32.9	32.8	32.2	24.7	22.4	6.9	6.1	10.5	4.4	253.5
1978[1]	9.7	9.2	11.1	18.0	18.1	18.1	10.4	16.6	7.7	10.3	6.3	9.5	145.0
1979[1]	11.7	14.2	22.5	18.6	23.0	15.5	8.2	10.8	4.5	4.5	6.1	7.7	183.0
1980[1]	6.2	15.1											

[1] Preliminary [2] Not seasonally adjusted. *Source: Statistical Reporting Service, U.S.D.A.*

PEANUTS AND PEANUT OIL

Production, Consumption, Stocks and Foreign Trade of Peanut Oil in the U.S. In Millions of Pounds

Year	Production		Consumption		Stocks—Dec. 31		Imports for Consumption	Exports	
	Crude	Refined	In Refining	In End pdt's.	Crude	Refined		Crude	Refined
1967	185.2	165.3	175.5	175.7	15.6	7.1	—	5.4	.5
1968	208.8	196.6	204.8	205.5	11.8	6.3	—	2.4	.7
1969	188.2	148.6	153.7	157.4	8.0	6.3	—	31.6	1.9
1970	196.5	157.6	163.3	168.0	8.7	6.6	—	24.7	7.3
1971	280.6	183.3	189.8	189.2	7.8	8.4	—	84.2	.8
1972	257.8	170.9	177.4	178.1	15.9	5.2	—	60.0	.7
1973	265.9	156.0	162.3	160.5	18.9	6.2	—	100.1	3.3
1974	183.9	128.9	134.9	130.4	16.5	7.2	1.1	45.1	.7
1975	275.3	144.9	150.8	122.7	42.6	23.1	.7	17.6	9.2
1976	481.2	259.9	267.8	249.7	192.3	17.4	1.2	9.7	95.7
1977	253.7	249.7	257.2	243.9	91.5	7.6	—	71.8	9.7
1978[1]	148.7	171.9	178.0	169.0	7.3	4.7	—	71.7	17.2
1979[1]	147.3								
1980									

[1] Preliminary. *Source: Bureau of Census*

Utilization of Peanut Oil in the United States In Thousands of Pounds

Year Begin. Aug.	Shortening	Margarine	Cooking and Salad Oils	Other Edible	Total Food Uses	Non-Food Uses	Factory Consumption	Foots & Loss	Domestic Disappearance
1967–8	23,000	6,000	152,000	15,000	196,000	12,000	208,000	7,000	206,000
1968–9	19,000	4,000	141,000	13,000	177,000	12,000	188,000	7,000	180,000
1969–0	16,000	1,000	129,000	9,000	155,000	9,000	164,000	5,000	155,000
1970–1	16,000	—	152,000	8,000	176,000	12,000	188,000	7,000	193,000
1971–2	15,000	—	160,000	9,000	184,000	12,000	196,000	7,000	195,000
1972–3	14,000	—	122,000	9,000	145,000	11,000	156,000	6,000	159,000
1973–4	23,000	—	124,000	9,000	156,000	11,000	167,000	6,000	158,000
1974–5	13,000	—	87,000	7,000	107,000	9,000	116,000	5,000	152,000
1975–6[1]	27,000	28,000	150,000	15,000	220,000	12,000	232,000	9,000	276,000
1976–7[2]	29,000	27,000	143,000	12,000	211,000	7,000	218,000	6,000	232,000
1977–8[2]	22,000	15,000							179,000
1978–9[2]	16,000								120,000
1979–0[2]									125,000

[1] Preliminary. [2] Estimate. *Source: Bureau of the Census*

Average Price of Domestic Refined Peanut Oil (in Tanks) in New York In Cents Per Pound

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
1967–8	13.8	13.8	13.4	14.8	16.5	16.4	16.1	16.6	16.1	16.1	17.4	15.5	15.5
1968–9	15.0	14.8	16.0	15.9	16.8	16.0	16.0	16.2	16.4	16.2	16.2	16.9	16.0
1969–0	17.2	17.8	17.2	17.8	18.5	18.0	18.5	18.9	18.5	18.5	18.9	19.2	18.3
1970–1	19.8	19.8	20.2	21.1	21.1	20.4	19.8	20.6	20.4	21.4	21.8	20.6	20.6
1971–2	19.8	19.9	20.4	19.3	19.0	20.1	21.6	21.3	20.6	20.9	19.9	19.3	20.2
1972–3	19.4	20.8	22.3	22.1	21.7	20.9	21.7	23.0	23.7	23.6	34.1	26.4	23.3
1973–4	28.0	28.6	37.1	42.4	48.0	49.8	48.5	49.8	50.9	49.9	50.9	49.8	44.5
1974–5	52.6	50.9	49.8	46.6	45.9	40.5	39.3	36.6	40.9	47.3	52.7	49.3	46.6
1975–6	42.2	39.3	35.3	35.4	37.8	38.9	35.4	31.0	33.5	38.3	36.4	38.0	37.1
1976–7	38.0	37.3	38.9	40.2	41.0	40.8	43.6	35.5	34.7	29.8	29.2	30.7	36.6
1977–8	34.1	33.4	42.8	47.3	44.9	41.2	46.6	48.1	47.1	44.5	44.9	48.6	43.6
1978–9	51.6	56.0	52.9	51.5	47.4	45.5	47.8	48.6	45.4	46.1	44.3	42.5	48.3
1979–0	41.8	38.4	36.6	32.9	32.8	30.0							
1980–1													

Source: Department of Agriculture

Pepper

Preliminary data indicate that world exports of black and white pepper in 1979 totaled slightly less than the 120,000 tonnes (metric tons) exported during 1978. Lower shipments by Brazil and Indonesia were the reason for the reduction.

Producer foreign exchange earnings from pepper exports in 1979 were expected to be lower than the $275 million estimated for 1978 because of the lower volume and a decline in prices. The New York spot price for Indonesian Lampong black pepper averaged 94 cents a pound in 1979, down 10.5 percent from the $1.05 average for 1978. The price of Indonesian Muntok white pepper fell 7.7 percent to an average of $1.32 a pound from $1.43 in 1978. Spot prices continued to move lower during the early months of 1980 in the face of softening demand.

Brazil, whose production for the 1979/80 crop year ending June 30, 1980, was estimated at 30,000 tonnes, exported 25,186 tonnes of pepper during calendar year 1979 vs. record shipments of 29,505 tonnes a year earlier. Reflecting a small harvest, Indonesia's 1979 exports were expected to fall below the 1978 level of 37,090 tonnes. Exports from Sarawak, Malaysia, which accounts for 97 percent of that nation's output, were expected to be somewhat above the 1978 level of 30,780 tonnes, most of which was channeled through the port of Singapore.

However, new pepper-grading machinery was scheduled to go into use in Malaysia in 1980, enabling more exports to meet the American Spice Trade Association standards. This should allow more direct shipments to the U.S., bypassing Singapore, which handles more than 80 percent of Malaysia's exports.

India's crop for the 1979/80 year ending October 31, 1980, was expected to be unchanged from the previous season's 35,000 tonnes. Exports during calendar year 1979 totaled 20,545 tonnes. The USSR was the largest customer, taking 11,130 tonnes. Shipments to the U.S. totaled only 771 tonnes, as importers continued to buy lower-priced pepper from other origins. The Indian government is planning to expand pepper production in Kerala State to 45,000 tonnes by 1982/83. Hybrid pepper cuttings will be made available for replanting areas currently under pepper cultivation.

Singapore exported 40,904 tonnes of pepper in 1978 (the latest year for which figures were available as this edition went to press), 47.7 percent more than the 27,689 tonnes shipped in 1977.

The U.S. imported 24,482 tonnes of whole black pepper in 1979, compared with 26,142 tonnes in 1978. Indonesia was the largest supplier, accounting for 10,898 tonnes, while Brazil was second at 9,704 tonnes. Whole white pepper imports increased to 2,755.6 tonnes from 2,382.2 tonnes a year earlier. Indonesia accounted for 2,159.3 tonnes or 78 percent of the 1979 imports. U.S. imports of both black and white ground pepper declined to 10.2 tonnes in 1979 from 27.9 tonnes in 1978.

World Exports of Pepper (Black & White) by Major Producing Countries In Metric Tons

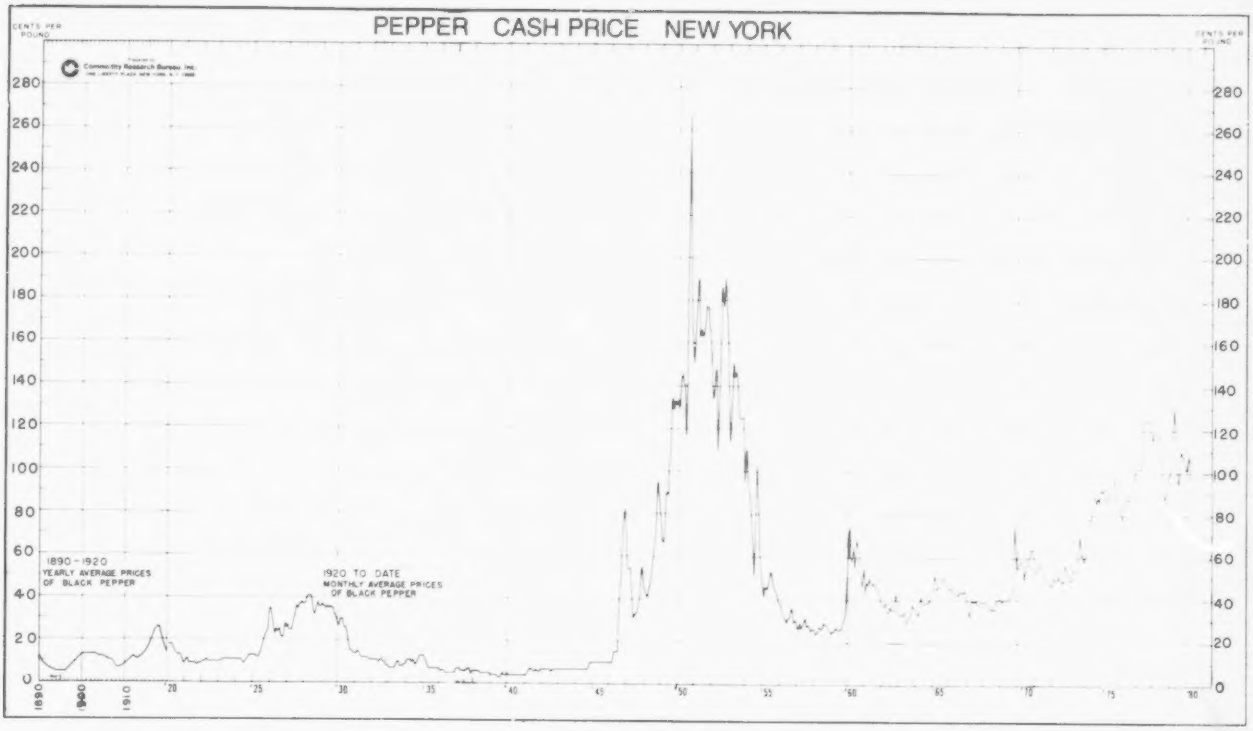
Year	Brazil	India	Indonesia	Malagasy Rep	Sarawak	Sri Lanka
1970	9,018	19,657	2,457	2,161	24,405	858
1971	17,325	16,901	23,566	1,284	26,914	46
1972	14,297	20,627	22,756	3,826	26,177	107
1973	13,761	27,942	25,452	3,193	22,830	518
1974	15,491	28,569	15,188	2,241	28,933	337
1975	17,944	24,399	14,525	3,461	29,815	96
1976	19,986	17,813	23,481	2,958	34,850	10
1977	17,099	25,892	30,856	3,748	26,795	635
1978[1]	29,505	19,370	37,090	1,137	30,780	1,205
1979						

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

United States Imports of Pepper from Specified Countries In Metric Tons[2]

	Black Pepper									White Pepper					
Year	Brazil	Greece	Sri Lanka (Ceylon)	India	Indonesia	Malaysia	Singapore	China	Total	Brazil	India	Indonesia	Malaysia	Singapore	Total
1968	8,021	—	603.2	2,578	34,217	1,626	1,199		48,827	121.2	N.A.	3,848	101.4	134.4	4,239
1969	11,367	—	999.2	2,749	29,182	1,698	2,351		48,390	864.0	190.4	4,019	67.2	413.3	5,610
1970	9,018	—	970.6	8,452	13,315	8,307	2,376		42,675	137.4	111.7	4,562	207.2	548.8	5,639
1971	13,433	—	28.5	6,993	25,767	6,543	1,895		54,941	88.2	89.5	4,069	329.4	336.2	4,915
1972	8,869	—	—	2,753	28,911	5,088	1,778		47,440	148.8	22.4	4,875	158.2	210.1	5,449
1973	8,630	112	302	9,690	29,627	544	849		49,827	730.9	—	4,446	58.3	330.1	5,588
1974	6,914	—	90	16,277	19,627	5,415	1,283	—	49,781	121.4	212.7	5,627	189.8	155.7	6,327
1975[2]	6,436	—	41	6,708	4,613	4,487	773	10	23,156	170	—	1,514	63	59	1,813
1976	6,609	—	—	359	11,774	4,037	1,321	3	24,128	53	—	2,118	56	128	2,362
1977	5,282	82	157	4,890	9,466	3,140	478	—	23,540	40	—	2,765	42	63	2,920
1978	10,472	—	186	1,880	10,595	2,293	604	6	26,142	285	—	1,994	64	28	2,382
1979[1]	9,704		281	627	10,898	2,644	156	61	24,482	414		2,159	51	94	2,756

[1] Preliminary. [2] Data prior to 1975 are in THOUSANDS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*



Average Black Pepper Prices in New York (Lampong, Whole Pepper) In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	37.8	35.5	37.3	40.0	39.0	38.8	39.8	38.3	38.3	38.8	38.8	38.8	38.4
1968	38.8	38.3	37.3	36.8	35.3	36.0	35.3	35.3	40.0	40.0	40.5	39.8	37.9
1969	39.3	40.3	39.5	39.5	40.0	39.5	41.0	42.0	46.0	75.0	58.0	55.0	46.3
1970	56.0	58.0	58.0	54.3	49.0	57.0	57.0	60.0	61.0	64.0	61.0	55.0	57.5
1971	52.5	52.5	56.0	56.0	55.0	52.5	51.0	51.0	48.0	47.0	46.5	47.0	51.3
1972	49.0	49.5	49.0	49.0	51.0	48.5	48.5	48.0	56.0	56.0	52.0	49.3	50.5
1973	49.3	52.0	54.0	53.0	52.5	53.0	65.0	70.0	61.0	61.0	57.5	61.0	57.4
1974	64.0	70.0	78.0	78.0	85.0	88.0	88.0	85.0	87.5	85.5	92.0	91.0	82.7
1975	91.5	87.0	86.0	90.0	89.0	87.5	88.5	95.0	97.0	94.0	87.5	85.0	89.8
1976	81.0	79.0	77.5	88.0	88.0	87.0	87.5	87.5	N.A.	N.A.	N.A.	102.0	86.4
1977	102.0	102.0	102.0	102.0	125.0	125.0	125.0	125.0	125.0	125.0	114.5	N.A.	115.7
1978	118.5	118.5	118.5	118.5	117.5	109.0	107.5	88.0	88.5	95.5	98.5	98.5	106.4
1979	105.0	N.A.	130.0	N.A.	N.A.	95.0	97.0	110.0	108.0	108.0	102.0	101.3	106.3
1980	108.0	101.0	96.3										
1981													

Source: Bureau of Labor Statistics (0289–0131)

Petroleum

Domestic crude oil production averaged 8.5 million barrels per day in 1979, down 2 percent from the 1978 average of 8.7 million barrels. The number of oil and gas wells completed in 1979 was 46,743, down less than 1 percent from the 47,057 completed in 1978. The 1979 breakdown included 19,331 oil wells, 14,673 gas wells and 15,739 dry holes, according to preliminary U.S. Department of Energy (DOE) data. The number of drilling rigs in operation averaged 2,177 per month in 1979, compared with 2,259 in 1978. Total footage drilled increased by 4.9 percent to 238.3 million feet from 227.1 million in 1978.

U.S. crude oil imports, excluding those for the Strategic Petroleum Reserve (SPR), increased by 2 percent in 1979 to a daily average of 6.323 million barrels from 6.195 million in 1978. But total crude oil input into domestic refineries fell by 1.5 percent to a daily average of 14.512 million barrels from 14.739 million a year earlier. Stocks of crude oil held at refineries, pipeline terminals and on leases totaled 339.7 million barrels on December 31, 1979, up 9.7 percent from 309.4 million held a year earlier. Stocks in the SPR increased to 91.2 million barrels from 66.7 million during the same period.

Total petroleum imports (crude and refined, including those for the SPR) averaged 8.279 million barrels per day in 1979, compared with the 1978 rate of 8.363 million. In his January 1980 State of the Union Message, President Carter announced a limit on U.S. petroleum imports of 8.2 million barrels per day (about 3 billion per year) for 1980. This implemented a pledge made at an economic summit of heads of state in July 1979, when the U.S. vowed to hold imports to less than 8.5 million barrels per day, a total surpassed late in 1979. Imports for 1980 were expected to be well below the 1980 target, though the cost of the imports was expected to soar to $80 billion or more from the $60 billion paid in 1979.

A fee of $4.62 per barrel on all imported oil went into effect on March 15, 1980. Importers were expected to attempt to pass along the fee to gasoline consumers. The resulting 10-cent-per-gallon increase in gasoline prices was expected to reduce U.S. gasoline consumption by 1 to 1.5 percent, or about 100,000 barrels per day. However, a glut of gasoline supplies in the early spring and a weakening U.S. economy were forcing many gasoline retailers to absorb part or all of the fee.

Prices

The actual domestic wellhead price for crude oil averaged $12.64 a barrel in 1979, up 40 percent from the 1978 average of $9. On a same-month basis, the price rose 79.3 percent from $9.47 in December 1978 to $16.98 in December 1979. The refiner acquisition cost for domestic crude rose 71.3 percent to $18.84 per barrel in December 1979 from $11 a year earlier. The cost for imported oil increased 93.5 percent to $28.91 from $14.94 per barrel during the same period. Preliminary DOE estimates put the composite acquisition cost at $23.63 a barrel in December 1979, up 82.8 percent from $12.93 a year earlier. The composite (the average of domestic and imported crude oil costs, including transportation and fees) represents the amount of crude oil cost which refiners may pass on to their customers.

Total domestic demand for refined petroleum products averaged 18.4 million barrels per day in 1979, down 2 percent from 18.8 million in 1978. Daily demand for motor gasoline accounted for 38 percent of the total, falling to an average of 7.0 million barrels a day from 7.4 million in 1978. December 1979 stocks of gasoline were estimated at 236.7 million barrels, down slightly from 238 million a year earlier. Demand for residual fuel oil fell to 2.8 million barrels per day in 1979 from 3.0 million in 1978. Ending stocks were put at 95.3 million barrels, up from 90.2 million in December 1978. Distillate fuel oil demand slipped to 3.3 million barrels per day from 3.4 million in 1978, while stocks increased to an estimated 228.3 million barrels in December 1979 from 216.4 million in December 1978. These fuel oil figures reflected the milder winter of 1979/80.

International Developments

At the December 1978 meeting of the Organization of Petroleum Exporting Countries (OPEC), the members agreed on a 15 percent price increase to be phased in during 1979 in a series of small increases. But this plan was altered radically by the Iranian revolution and the accompanying disruption of its petroleum exports. Though the shortfall was covered by increased output by other suppliers while oil consumption leveled off, stockpiling kept the mar-

World Production of Crude Petroleum, by Specified Countries In Millions of Barrels (42 Gallons Each)

Year	Argentina	Canada	China	Libya	Iran	Iraq	Kuwait	Nigeria	Mexico	Indonesia	Romania	U.S.S.R.	Saudi Arabia	United States	Venezuela	World Total
1969	130	411	N.A.	1,136	1,232	555	1,022	197	150	271	101	2,413	1,174	3,372	1,312	15,214
1970	143	461	N.A.	1,209	1,397	570	1,090	396	157	312	102	2,595	1,387	3,517	1,353	16,690
1971	155	492	N.A.	1,008	1,662	624	1,068	558	177	326	102	2,778	1,642	3,454	1,295	17,663
1972	158	561	N.A.	820	1,839	529	1,201	665	185	396	105	2,896	2,202	3,455	1,178	18,601
1973	154	648	N.A.	794	2,139	737	1,102	750	191	489	107	3,094	2,773	3,361	1,229	20,368
1974	151	617	475	555	2,198	721	930	823	238	502	108	3,374	3,096	3,203	1,086	20,538
1975	144	521	572	551	1,953	826	762	652	294	477	109	3,609	2,583	3,052	856	19,498
1976[2]	146	489	646	704	2,168	884	700	756	327	550	110	3,822	3,054	2,976	840	21,192
1977[2]	157	482	654	759	2,080	827	651	765	358	615	109	3,991	3,290	2,985	817	21,826
1978[1]	168	480	732	732	1,980	898	920	765	440	597	100	4,100	3,030	3,000	790	21,900

[1] Estimate. [2] Preliminary. *Source: Bureau of Mines*

ket tight, leading to producer surcharges that drove prices well above the ceiling. OPEC members still were unable to agree on a unified price structure at their June 1979 meeting, which resulted in a multitier contract price and freedom for producers to charge whatever the market would bear. Many producers sold an increasing part of their output in the spot market, often receiving more than $40 per barrel. The weighted-average OPEC contract price at the end of 1979 was $26.50 per barrel. OPEC oil revenues increased about $60 billion to $200 billion for 1979, while OPEC imports of goods were about unchanged. OPEC as a whole recorded a current account surplus of more than $50 billion.

Futures Markets

Heating oil futures are traded on the New York Mercantile Exchange.

Stocks of Petroleum & Products in the United States on January 1 In Millions of Barrels

			Refined Products													
						Fuel Oil										
Year	Crude Petroleum	Nat. Gas Liquids	Total	Asphalt[2]	Coke[3]	Distillate	Residual	Finished Gasoline	Petro-Chemical Feedstocks	Jet Fuel	Kerosene	Liquefied Gases (For Fuel)	Lubricants	Road Oil	Wax[4]	Unfinished Oils (Net)[5]
1970	265.2	60.9	656.0	16.8	5.2	171.7	58.4	217.4	2.8	28.1	26.8	4.8	14.1	.9	1.0	97.8
1971	276.4	66.0	635.5	15.8	5.3	195.3	54.0	214.3	3.6	27.6	27.6	5.4	14.7	.6	1.0	99.0
1972	259.6	88.4	677.5	21.2	7.4	190.6	59.7	223.8	3.9	27.7	24.4	7.0	15.0	.9	1.1	100.6
1973	246.4	79.2	611.7	21.6	7.8	154.3	55.2	217.1	2.8	25.5	19.1	7.5	13.3	1.3	1.1	94.8
1974	242.5	94.1	658.8	15.0	10.0	196.5	53.5	213.4	2.4	28.5	21.0	7.4	12.2	.8	1.0	99.2
1975	265.0	108.4	695.0	21.4	5.4	200.1	59.7	221.9	3.5	29.4	15.3	5.8	16.1	1.1	1.2	106.0
1976	271.4		747.9	22.8	7.4	208.8	74.1	238.0	2.9	30.4	15.6	8.4	14.3	.6	.9	106.4
1977	285.5		707.7	19.4	10.6	186.0	72.3	234.3	4.7	32.1	12.5	6.9	12.3	.2	.7	110.5
1978[1]	347.6		841.8	18.7	10.2	250.3	89.7	260.7	3.9	34.6	18.0	7.5	12.1	.3	.6	113.2
1979[1]	376.3		784.6	20.9	11.1	216.5	90.2	240.8	4.4	33.7	14.3	7.1	12.2	.3	.8	108.7
1980[6]	430.3		779.8	19.0	5.2	228.7	95.9	240.3	4.0	38.5	15.8	5.9	12.5	.3	.7	117.7

[1] Preliminary. [2] 5.5 bbls. = 1 s. ton. [3] 5 bbls. = 1 s. ton. [4] 1 bbl. = 280 lbs. [5] And misc. products. [6] Estimate.
Source: Bureau of Mines

Exports[2] of Petroleum and Products from the United States In Thousands of Barrels[1]

		Refined Products											
					Fuel Oil		Lubricants						
Year	Crude	Total Refined	Finished Gasoline	Kerosene (Incl. Range Oil)	Distillate	Residual	Grease	Oil	Wax	Coke	Asphalt	Liquified Gases	Misc. Oils
1970	4,991	89,467	1,370	121	898	19,785	293	15,797	1,808	30,557	356	9,955	1,071
1971	503	81,342	1,649	181	2,761	13,217	235	15,590	1,660	27,069	306	9,390	1,028
1972	187	81,202	656	91	1,211	12,060	227	14,769	1,130	31,118	333	11,469	1,058
1973	697	83,716	1,664	85	3,231	8,507	251	12,496	965	34,976	340	9,955	1,187
1974	1,074	79,417	1,013	36	855	4,969	277	11,659	879	41,244	410	9,038	1,207
1975	2,146	74,282	850	52	267	5,342	265	8,846	607	37,253	320	9,488	1,124
1976	2,941	78,658	1,297	40	421	4,210	261	9,234	625	37,778	267	8,993	1,112
1977	18,255	70,333	725	23	519	2,305	256	9,388	734	37,393	223	6,483	1,339
1978[3]	57,728	74,329	470	40	1,202	4,634	288	9,399	543	40,438	138	7,238	171
1979[4]	85,465	86,891	446	26	1,393	3,398	287	8,307	826	53,135	177	5,388	166

[1] 42 gallons per barrel. [2] Includes shipments from Noncontiguous Territories. [3] Preliminary. [4] Estimate.
Source: Bureau of Mines

Imports[2] of Petroleum & Products into the United States In Thousands of Barrels (42 Gallons Per Barrel)

		Refined Products												
				Fuel Oil										
Year	Crude	Total Refined	Asphalt	Distillate	Residual	Finished Gasoline	Jet Fuel[3]	Kerosene	Liquified Pet. Gases	Lubricants	Petrochemical Feedstocks	Special Naphthas	Unfinished Oils	Wax
1970	483,293	725,508	6,201	53,826	557,845	24,320	52,696	1,451	18,921	224	5,352	2,297	39,261	117
1971	613,417	760,949	7,216	55,783	577,700	21,658	65,712	189	25,655	10	5,109	1,824	45,193	93
1972	811,135	847,046	9,263	66,449	637,401	24,787	71,174	526	32,401	669	3,178	863	45,705	335
1973	1,183,996	1,009,992	8,444	143,149	676,225	48,759	77,557	785	48,002	2,091	3,825	88	50,161	1,067
1974	1,269,155	885,200	11,252	105,579	579,157	74,402	59,396	1,744	44,971	1,786	4,364	938	44,228	956
1975	1,498,181	672,197	4,956	56,678	446,528	67,249	48,523	1,073	40,727	1,335	2,061	43	12,985	684
1976	1,935,012	705,256	3,905	53,520	517,325	47,774	27,983	3,103	47,436	1,361	1,370	45	11,735	654
1977	2,397,468	767,925	1,483	90,504	492,581	78,434	27,117	6,869	58,927	3,270	4,954	972	11,239	—
1978[1]	2,319,826	716,868	907	63,288	494,640	69,518	31,346	4,031	40,889	2,978	2,994	1,750	9,913	—
1979[4]	2,364,449	680,380	1,448	7,507	419,696	65,998	28,115	3,298	62,576	3,303	3,710	3,256	20,447	—

[1] Preliminary. [2] Includes shipments to Noncontiguous Territories. [3] Formerly included with gasoline. [4] Estimate.
Source: Bureau of Mines

Production of Major Refined Petroleum Products in Continental U.S. In Millions of Barrels

Year	As-phalt[2]	Coke [3]	Fuel Oil Dis-tillate	Fuel Oil Resid-ual	Gaso-line[4]	Petro-Chemical Feedstocks	Special Naph-thas	Miscel. pdt's.	Total Jet Fuel	Kero-sene	Liquified Gases[7] (For Fuel)	Lubri-cants	Road Oil	Still Gas[5]	Wax [6]
1967	127.8	90.9	804.8	276.0	1,845.8	87.4	27.0	16.5	273.2	100.4	67.6	64.9	7.0	140.0	5.7
1968	135.5	95.2	840.7	275.8	1,940.0	95.4	28.1	19.1	314.9	101.6	71.1	65.7	6.8	149.8	5.9
1969	135.7	102.9	848.4	265.9	2,028	98.4	28.9	17.9	321.7	102.9	75.7	65.1	9.1	160.4	6.4
1970	146.7	107.9	897.1	257.5	2,105	100.4	30.6	15.7	301.9	95.7	80.9	66.2	9.4	163.9	6.3
1971	157.0	109.1	912.1	274.7	2,203	110.9	28.6	15.4	304.7	87.5	88.6	65.5	8.8	157.0	6.9
1972	155.3	119.8	963.6	292.5	2,320	124.0	32.4	16.4	310.0	80.1	84.5	65.3	7.9	171.0	6.1
1973	167.9	132.3	1,030.2	354.6	2,402	132.6	33.1	19.9	313.7	80.1	89.6	68.7	7.3	176.8	6.8
1974	164.2	123.7	974.0	390.5	2,337	134.8	33.5	25.2	305.1	56.9	81.6	70.7	7.2	175.7	6.9
1975	144.0	129.2	968.4	451.0	2,394	122.2	27.3	32.2	318.0	55.7	80.5	56.2	4.3	175.4	5.7
1976	139.7	130.1	1,070	504.0	2,517	164.4	32.6	47.2	335.8	55.7	84.2	61.8	3.2	180.7	7.0
1977	154.1	133.8	1,197	639.0	2,582	191.4	31.4	53.0	355.7	62.0	85.3	64.5	3.3	192.5	7.2
1978[1]	172.9	134.6	1,156	608.6	2,631	223.1	36.7	47.0	353.9	56.3	87.5	69.5	3.2	200.0	6.9
1979[1]	166.7	136.8	1,149	614.8	2,514	253.5	36.8	42.4	368.7	67.3	86.4	70.9	3.7	202.3	6.9
1980															

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[1] Estimated. [2] 5.5 barrels = 1 short ton. [3] 5 barrels = 1 short ton. [4] Finished & natural. [5] 1 barrel = 3.600 cubic feet. [6] 1 barrel = 280 pounds. [7] Liquefied refinery gases. *Source: Bureau of Mines*

United States Production of Crude Petroleum In Millions of Barrels

Year	Arkan-sas	Cali-fornia	Colo-rado	Illi-nois	Kan-sas	Louisi-ana	Mich-igan	Missis-sippi	Mon-tana	New Mexico	Okla-homa	Alaska	Texas	Utah	Wyo-ming	Total U. S.
1967	21.1	359.2	33.9	59.1	99.2	774.5	13.7	57.1	35.0	126.1	230.7		1,120	24.0	136.3	3,216
1968	19.5	375.5	31.9	56.4	94.5	817.4	13.0	58.7	48.5	128.6	223.6		1,133	23.5	144.3	3,329
1969	18.1	375.3	28.3	50.7	88.7	844.6	12.2	64.3	44.0	129.2	224.7	74.0	1,152	23.3	154.9	3,372
1970	18.0	372.2	24.7	43.7	84.9	906.9	11.7	65.1	37.9	128.2	223.6	83.6	1,250	23.4	160.3	3,517
1971	18.3	358.5	27.4	39.1	78.5	935.2	11.9	64.1	34.6	118.4	213.3	79.5	1,223	23.6	148.1	3,454
1972	18.5	347.0	32.0	34.9	73.7	891.8	13.0	61.1	33.9	110.5	207.6	72.9	1,302	26.6	140.0	3,455
1973	18.0	336.1	36.6	30.7	66.2	831.5	14.6	56.1	34.6	101.0	191.2	72.3	1,295	32.7	141.9	3,361
1974	16.5	323.0	37.5	27.6	61.7	737.3	18.0	50.8	34.6	98.7	177.8	70.6	1,262	39.4	140.0	3,203
1975	16.1	322.2	38.1	26.1	59.1	650.8	24.4	46.6	32.8	95.1	163.1	69.8	1,222	42.3	135.9	3,057
1976	18.1	326.0	39.0	26.3	58.7	606.5	30.4	46.1	32.8	92.1	161.4	63.4	1,190	34.3	134.1	2,976
1977	20.2	349.7	39.4	25.7	57.5	562.9	33.0	43.0	32.7	87.1	156.4	169	1,138	32.9	111.8	2,985
1978[1]	20.3	347.2	36.8	23.4	56.6	532.7	34.7	42.0	30.5	83.4	150.5	449	1,074	31.4	137.4	3,178
1979[1]	18.9	352.5	32.3	21.7	57.0	494.5	33.9	38.3	30.0	79.4	143.6	512	1,013	27.3	124.6	3,115
1980																

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[1] Preliminary. *Source: Bureau of Mines*

Percentage Yields of Refined Products[1] from Crude Petroleum in the United States

Computed on Total Crude Run to Stills

Year	Gasoline	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Lubri-cants	Jet Fuel	Coke	Asphalt	Petro-Chemical Feedstocks	Still Gas	Liquefied Gases
1967	44.0	2.7	22.2	7.7	1.8	7.5	2.5	3.5	2.4	3.9	3.1
1968	43.9	2.7	22.1	7.2	1.7	8.3	2.5	3.6	2.5	4.0	3.1
1969	44.8	2.6	21.7	6.8	1.7	8.2	2.6	3.5	2.5	4.1	2.9
1970	45.3	2.3	22.4	6.4	1.6	7.5	2.7	3.6	2.5	4.1	3.0
1971	46.2	2.1	22.0	6.6	1.6	7.4	2.6	3.8	2.7	3.8	2.9
1972	46.2	1.8	22.2	6.8	1.5	7.2	2.8	3.6	2.9	3.9	2.8
1973	45.6	1.7	22.5	7.7	1.5	6.8	2.9	3.6	2.9	3.9	2.8
1974	45.9	1.3	21.8	8.7	1.6	6.8	2.8	3.7	3.0	3.9	2.6
1975	46.5	1.2	21.3	9.9	1.2	7.0	2.8	3.2	2.7	3.9	2.4
1976[2]	45.5	1.1	21.8	10.3	1.3	6.8	2.6	2.8	3.3	3.9	2.4
1977[3]	43.4	1.3	22.6	12.5		6.6					
1978[3]	45.4	1.2	21.6	11.2		6.4					
1979[3]	42.1	1.3	21.7	12.6		7.1					
1980											

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[1] Finished products. [2] Preliminary. [3] Estimate. *Source: Bureau of Mines*

PETROLEUM

Crude Petroleum Refinery Operations Ratio[1] In Percent of Capacity

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	91	92	92	91	90	92	94	94	94	94	94	96	93
1968	95	96	95	94	92	91	93	93	92	91	90	92	93
1969	86	94	92	92	90	92	94	92	92	90	92	94	92
1970	93	93	93	91	86	90	87	89	89	87	89	88	90
1971	88	88	88	86	83	89	88	87	85	85	85	86	86
1972	85	85	85	84	86	89	89	89	91	89	89	91	88
1973	91	90	90	90	90	94	94	93	92	94	91	89	91
1974	84	81	82	85	89	91	91	90	86	87	87	88	87
1975	85	85	83	82	83	86	89	89	89	85	87	88	86
1976	86	88	87	86	87	93	94	91	89	86	90	91	89
1977	89	93	90	89	89	91	91	90	91	89	89	88	90
1978	85	84	85	83	89	88	88	91	90	89	91	90	88
1979	80	84	83	84	84	86	87	86	84	83	84		
1980													

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[1] Based on the ratio of the daily average crude runs to stills to the rated capacity of refineries per day.

Source: Bureau of Mines

U.S. Gross Input to Crude Oil Distillation Units In Millions of Barrels of 42 Gallons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	293.8	268.4	296.1	282.9	297.1	294.6	310.0	309.7	302.0	310.9	299.1	318.1	3,583
1968	312.9	297.0	312.8	299.5	324.1	310.2	328.1	328.5	312.4	319.5	304.8	324.7	3,774
1969	303.8	299.3	325.7	312.1	326.2	324.4	339.1	334.8	324.3	325.7	321.6	342.7	3,880
1970	336.9	304.8	335.9	318.4	324.0	326.2	335.5	341.7	330.3	336.6	330.9	346.7	3,968
1971	344.9	312.3	345.1	336.2	332.8	344.5	355.0	352.4	334.0	345.5	333.6	351.5	4,088
1972	353.0	329.3	351.7	335.5	355.8	355.2	368.4	369.4	363.4	368.0	355.5	375.5	4,281
1973	377.9	341.2	378.2	366.2	380.7	385.9	395.2	391.7	376.8	395.5	371.2	376.6	4,537
1974	373.2	326.5	368.7	371.6	400.4	398.8	414.1	409.1	380.0	398.3	386.0	404.9	4,632
1975	395.8	353.9	384.3	368.3	384.7	385.6	414.9	416.9	401.5	397.3	394.6	411.4	4,709
1976	403.6	388.1	412.2	396.4	413.4	427.7	446.1	446.3	425.3	428.0	437.3	457.0	5,081
1977	453.6	425.6	456.3	438.5	462.8	458.0	471.2	466.0	457.5	465.9	449.6	463.5	5,468
1978	449.8	401.2	447.9	426.3	472.2	451.2	470.3	483.2	461.9	475.9	470.6	487.6	5,501
1979	467.4	409.1	449.1	445.0	457.0	453.5	477.9	474.0	447.2	458.0	446.8		
1980													

Source: Bureau of Mines

Production[1] of Crude Petroleum in the United States In Millions of Barrels of 42 Gallons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	265.6	241.4	264.9	254.3	259.9	256.2	283.8	292.5	272.8	279.0	269.3	276.1	3,216
1968	279.9	270.4	288.9	273.7	285.4	274.3	283.8	283.2	268.0	276.4	269.1	276.1	3,329
1969	275.5	250.0	280.7	277.2	290.0	288.9	288.2	281.1	278.9	285.6	280.4	295.4	3,372
1970	293.8	268.0	294.7	287.7	295.2	280.8	285.2	296.4	295.6	310.4	301.3	308.3	3,517
1971	299.3	272.4	302.8	293.1	299.0	288.1	293.2	291.7	274.1	284.0	274.2	282.1	3,454
1972	282.5	270.7	293.3	285.4	298.0	285.6	294.4	294.0	285.2	293.9	282.8	289.4	3,455
1973	284.5	263.1	287.4	278.8	287.1	276.4	285.7	284.2	272.0	285.9	274.8	281.0	3,361
1974	277.0	256.0	277.9	268.6	276.2	263.4	272.2	269.7	253.3	266.9	257.1	264.3	3,203
1975	262.1	240.6	263.3	253.7	259.7	252.6	258.4	255.7	248.4	258.1	248.3	255.9	3,057
1976	254.6	237.7	253.4	242.4	253.2	244.3	251.2	250.3	245.6	249.5	241.3	248.2	2,972
1977[2]	241.5	225.9	248.7	242.4	248.3	241.2	249.2	255.5	252.5	263.7	255.4	261.1	3,007
1978[2]	258.8	234.4	237.0	261.2	272.8	264.7	271.2	272.4	263.6	273.8	262.2	268.5	3,178
1979[2]	262.2	238.0	266.1	256.0	266.1	252.3	259.0	269.7	254.0	265.6	259.5		
1980													

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[1] Represents oil transported from producing properties, plus that remaining on properties & consumed on leases. [2] Preliminary.

Source: Bureau of Mines

Average Price of Crude Petroleum at Wells[1] Index (1967 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1973	114.7	114.7	114.9	117.1	122.0	125.3	125.8	125.8	133.3	133.3	139.3	146.2	126.0
1974	178.4	201.7	201.7	201.7	201.7	201.7	224.4	225.2	225.4	236.2	231.0	223.0	211.8
1975	223.1	228.6	230.2	232.2	234.2	256.0	250.4	256.1	256.1	257.8	261.0	262.6	245.7
1976	263.3	242.3	242.5	245.0	246.0	248.0	254.3	254.3	254.3	264.4	264.4	264.4	253.6
1977	232.9	274.2	270.0	271.0	271.0	271.8	270.8	273.1	276.1	278.6	282.9	288.1	274.2
1978	288.8	289.7	293.4	294.3	295.5	298.9	301.8	302.7	305.7	307.5	310.5	312.4	300.1
1979	316.4	322.3	324.2	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8	376.5
1980	513.6	515.1	522.8										

[1] Buyers posted prices. *Source: Bureau of Labor Statistics*

Average Wholesale Prices of Gasoline[1] (Regular Grade—Leaded) Index (Feb. 1973 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1974	136.7	147.0	161.4	172.1	177.3	188.5	196.6	196.1	197.4	196.2	186.7	184.9	178.4
1975	187.0	189.1	191.1	193.3	199.0	206.8	215.5	228.9	233.7	235.1	233.0	229.5	211.8
1976	227.3	226.4	221.7	219.1	220.6	229.2	239.4	243.2	245.0	244.7	243.8	242.2	233.6
1977	239.9	240.4	245.6	249.5	254.5	258.9	261.2	260.5	259.6	257.5	256.3	255.8	253.6
1978	255.1	252.8	252.0	253.0	255.5	260.5	266.4	271.3	275.1	278.1	277.5	282.7	265.0
1979	287.0	292.3	299.9	313.0	331.6	349.3	371.0	397.7	422.1	438.9	447.8	459.1	367.5
1980	479.6	518.6	559.2										

[1] Excludes aviation. *Source: Bureau of Labor Statistics*

Average Retail Price of Gasoline[1] (Regular—Excl. Taxes) 55 Cities In Cents Per Gallon

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Average
1974	32.8	36.1	38.1	39.6	41.7	43.5	43.6	43.7	43.0	40.9	40.7	41.2	40.4
1975	42.3	42.2	42.5	42.8	43.8	45.2	47.4	48.0	48.0	48.1	47.6	47.6	45.5
1976	46.8	46.2	45.6	45.2	46.1	47.9	48.5	48.7	48.7	48.7	48.6	48.3	47.4
1977	48.4	48.8	49.6	50.3	51.0	51.7	51.7	51.7	51.5	51.8	51.3	51.1	50.7
1978	51.2	51.1	51.0	51.2	51.7	52.4	53.3	54.2	54.5	54.7	55.4	56.4	53.1
1979[2]	68.4	70.0	73.2	77.2	81.4	87.8	93.1	96.8	99.0	99.8	101.1	105.1	87.7
1980	112.7	119.0	122.6										

[1] Excludes aviation—mid-month. [2] Beginning 1979, prices includes taxes. *Source: U.S. Dept. of Commerce*

Average Price of Distillate (Middle) No. 2 Fuel Oil[1] Index (1967 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1973	113.9	124.1	129.1	130.1	133.8	137.4	141.8	143.3	145.6	147.7	157.3	171.7	139.7
1974	194.8	234.1	251.9	[illegible]	269.2	279.7	288.9	294.8	298.8	297.9	296.0	300.1	272.0
1975	299.1	297.5	294.6	294.9	296.1	301.3	308.3	312.9	318.2	322.9	330.8	336.3	309.4
1976	336.7	339.3	335.3	331.8	328.5	329.2	332.2	336.2	338.9	341.2	344.3	349.8	337.0
1977	359.0	369.4	377.8	384.0	387.0	386.8	388.7	388.8	388.9	389.1	392.2	394.2	384.1
1978	396.6	398.6	394.8	393.3	393.3	393.2	393.1	393.4	394.1	399.9	407.6	418.0	398.0
1979	425.7	432.6	451.9	477.9	504.8	542.3	593.1	632.8	680.6	710.5	715.7	720.1	574.0
1980	739.5	794.4	837.6										

[1] Barge lots, f.o.b. refinery or terminal, excluding all fees & taxes. *Source: Bureau of Labor Statistics*

Average Wholesale Price of Kerosene (Light Distillate)—No. 1 Fuel Index (1967 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1973	112.1	120.4	121.2	123.4	122.9	126.9	128.6	129.4	130.0	135.6	135.9	145.9	128.0
1974	154.3	184.8	198.7	209.4	217.6	233.2	241.7	250.2	256.8	254.7	261.4	257.9	226.7
1975	253.7	267.2	274.9	273.6	280.6	284.6	283.7	299.1	297.9	299.4	304.2	307.8	285.6
1976	310.5	316.6	313.9	311.2	306.7	303.8	305.4	309.2	311.5	316.0	320.2	323.2	312.3
1977	325.6	339.2	346.6	351.7	355.0	357.2	360.5	362.8	363.5	374.9	379.3	381.2	358.5
1978	383.0	388.2	388.4	387.9	390.6	391.1	392.8	393.9	395.5	397.1	398.4	403.0	392.7
1979	407.5	412.7	419.1	433.0	465.5	504.1	533.4	588.4	632.9	674.4	695.9	705.9	539.4
1980	733.3	773.9	833.9										

Source: Bureau of Labor Statistics

PETROLEUM

Stocks of Crude Petroleum[1] in the United States at Beginning of Month In Thousands of Barrels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	238.4	250.6	252.4	258.1	266.8	268.8	261.6	256.2	261.6	257.3	255.1	254.2
1968	249.0	244.9	245.3	256.9	262.1	262.0	264.9	265.8	266.4	262.8	266.3	271.6
1969	272.2	279.5	265.3	264.2	273.2	281.3	284.5	277.5	267.7	262.5	264.3	264.8
1970	265.2	267.1	269.6	274.6	278.0	284.8	279.9	266.9	254.1	259.2	265.5	271.3
1971	276.4	269.8	266.9	267.2	271.4	284.3	279.3	273.2	272.4	269.8	265.9	265.2
1972	259.6	251.0	252.9	258.9	266.6	279.5	271.4	265.8	258.0	250.8	253.7	251.3
1973	246.4	237.5	235.4	244.1	248.8	257.9	248.9	243.7	248.3	241.3	246.3	250.0
1974	242.5	233.0	240.7	244.7	256.4	269.5	268.8	268.7	264.8	266.7	269.4	271.1
1975	265.0	270.5	276.8	280.0	281.9	281.0	276.1	264.2	256.6	259.4	269.6	271.0
1976	271.4	289.3	277.4	283.1	286.6	284.0	281.7	282.6	277.3	284.4	297.7	298.8
1977[2]	285.5	294.0	291.4	299.5	318.6	328.6	333.6	335.2	338.3	334.2	343.2	350.2
1978[2]	347.7	351.2	350.1	363.8	365.0	354.6	363.4	367.9	357.7	368.3	377.9	381.4
1979[2]	376.3	375.9	381.1	399.9	403.6	403.2	414.5	403.0	411.9	415.0	435.9	438.6
1980												

[1] Total gasoline-bearing in the U.S. [2] Preliminary. *Source: Bureau of Mines*

Stocks of Distillate Fuel in the U.S., First of the Month In Millions of Barrels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Residual Fuel —Oil Stocks—	
													Jan. 1	July 1
1967	154.1	134.6	106.8	88.1	93.7	97.4	114.5	134.8	157.9	180.5	190.4	176.1	61.2	63.5
1968	159.7	119.8	96.9	93.5	101.2	115.8	139.5	168.1	191.4	206.0	211.8	204.0	65.6	67.6
1969	173.2	130.6	106.6	99.6	99.8	110.9	132.6	159.1	183.5	197.7	208.0	201.0	65.4	60.5
1970	171.7	130.7	111.5	101.0	102.1	115.8	137.5	163.5	188.2	205.7	216.4	218.1	58.4	46.0
1971	195.3	158.7	128.7	112.9	113.7	125.8	145.8	172.4	197.0	210.1	223.0	214.8	54.0	58.7
1972	190.6	160.1	122.2	101.8	98.3	112.9	128.8	155.6	174.7	190.3	195.6	182.6	59.7	56.1
1973	154.3	131.0	113.3	111.3	114.7	119.1	137.9	160.9	177.3	190.2	203.0	200.2	55.2	51.8
1974	196.5	181.2	149.2	128.9	125.6	141.8	160.7	182.5	198.7	208.3	209.9	212.9	53.5	57.9
1975	200.1	199.8	176.7	161.1	146.3	152.1	163.3	181.5	197.4	220.8	226.2	235.8	59.7	69.7
1976	208.8	165.5	150.5	138.3	137.3	147.1	165.1	190.9	218.0	232.3	235.6	223.7	74.1	64.3
1977[1]	186.0	143.0	133.3	141.9	148.3	162.2	178.9	204.9	229.8	252.8	267.4	270.6	72.3	71.9
1978[1]	250.3	213.4	165.9	137.9	136.3	145.1	157.5	180.5	200.4	220.8	233.1	233.2	90.0	71.9
1979[1]	216.5	175.7	127.1	112.7	115.0	123.1	141.4	171.3	195.4	220.3	231.1	236.6	90.2	80.9
1980														

[1] Preliminary. *Source: Bureau of Mines*

United States Production of Gasoline[1] In Millions of Barrels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	154.3	136.5	146.2	142.7	151.9	155.4	159.1	160.3	158.9	159.4	155.3	165.8	1,846
1968	159.4	147.6	153.4	147.0	160.7	162.3	170.3	170.3	167.2	166.6	162.4	172.9	1,940
1969	159.2	151.6	163.9	154.3	167.1	166.0	177.8	179.6	174.3	177.1	175.3	182.1	2,028
1970	176.5	157.0	173.4	164.3	172.5	173.8	180.6	183.0	180.8	177.7	175.6	190.2	2,105
1971	185.2	167.0	180.8	170.4	174.3	181.4	192.7	196.6	186.1	188.2	183.1	196.9	2,203
1972	192.6	175.2	184.9	176.8	188.6	189.1	206.7	206.2	199.8	204.6	194.9	200.7	2,320
1973	197.9	173.0	192.2	192.9	209.8	211.3	218.3	215.4	200.2	207.1	193.2	190.4	2,402
1974	184.2	168.2	186.5	190.5	197.7	201.4	212.2	213.0	195.6	197.8	190.1	200.1	2,338
1975	203.0	176.7	189.2	182.3	191.1	201.2	218.5	214.6	206.0	200.3	199.4	211.3	2,394
1976	201.8	188.6	201.2	197.8	211.1	220.6	223.9	223.3	207.8	208.1	209.3	223.5	2,517
1977[2]	215.8	191.6	214.0	210.2	216.8	215.8	226.4	224.3	213.4	216.0	214.9	222.6	2,581
1978[2]	215.8	186.4	210.1	201.2	220.1	217.8	226.6	232.7	223.4	223.6	228.7	243.9	2,631
1979[2]	226.8	195.3	207.4	204.4	211.9	211.4	219.1	215.4	200.8	202.9	201.2		
1980													

[1] Gasoline and naphtha from crude petroleum and natural gasoline used at refineries. [2] Preliminary. *Source: Bureau of Mines*

United States Domestic Consumption of Gasoline In Millions of Barrels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	137.2	129.0	152.1	145.6	161.3	165.7	162.6	171.0	152.6	160.5	154.4	150.7	1,843
1968	148.0	144.5	155.6	162.7	169.0	166.4	180.5	179.3	159.8	170.1	158.4	161.8	1,956
1969	158.4	145.2	159.7	168.7	177.7	173.1	188.4	185.0	171.0	177.2	163.6	174.5	2,043
1970	163.9	151.0	173.4	171.3	183.6	187.4	195.2	190.4	179.8	184.8	168.4	182.0	2,131
1971	164.6	154.6	182.6	187.6	184.5	195.1	201.0	197.0	183.6	188.6	184.6	189.3	2,213
1972	173.2	166.9	200.5	190.0	201.2	206.2	208.4	216.6	194.9	198.5	195.5	198.8	2,351
1973	190.9	181.5	203.2	197.5	215.7	210.3	218.9	226.9	198.7	208.6	206.0	194.5	2,453
1974	181.2	171.7	192.7	195.0	210.4	209.1	217.1	220.7	193.0	209.7	197.6	204.3	2,402
1975	193.4	171.7	197.1	202.7	214.1	213.5	219.7	218.6	203.2	211.5	192.8	212.0	2,450
1976	199.2	182.5	214.7	215.9	213.5	226.0	228.0	223.7	213.5	215.9	212.2	222.2	2,567
1977[1]	201.2	194.1	215.0	221.5	219.2	229.3	232.3	231.4	220.8	222.2	216.8	229.4	2.634
1978[1]	207.6	193.6	226.2	217.3	241.0	258.8	236.3	245.6	223.5	232.5	226.0	231.9	2.720
1979[1]	214.4	204.3	225.0	213.1	224.5	216.9	213.8	228.9	207.7	218.8	204.4		
1980													

[1] Preliminary. *Source: Bureau of Mines*

Stocks of Finished Gasoline on Hand in the United States, at End of Month In Millions of Barrels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	212.8	221.5	216.5	215.0	207.3	198.1	194.5	184.0	190.8	190.5	192.0	208.0
1968	220.4	224.2	223.4	209.5	203.1	201.0	193.1	186.1	195.1	193.2	198.9	211.5
1969	214.5	222.6	229.2	216.6	207.7	201.8	193.1	189.4	194.3	195.0	208.4	217.4
1970	231.8	238.8	240.8	235.7	226.4	214.9	201.9	196.4	199.3	194.5	204.0	214.3
1971	237.0	250.5	250.6	235.0	226.2	214.0	207.2	208.4	212.3	212.9	213.6	223.8
1972	244.6	254.8	241.2	229.5	219.2	204.3	204.7	196.8	203.7	211.7	213.2	217.1
1973	226.0	220.0	211.1	208.2	205.3	211.6	215.0	208.6	213.9	218.2	211.4	213.4
1974	221.3	223.0	223.6	226.8	221.9	220.5	222.2	222.1	230.7	224.1	221.9	221.9
1975	228.3	245.9	255.4	252.1	235.7	217.0	210.0	215.2	218.4	229.2	224.5	235.3
1976	238.0	243.4	251.8	241.9	226.6	227.5	227.7	229.4	233.2	232.6	229.1	230.5
1977	234.3	255.5	258.1	264.7	261.5	265.3	259.1	260.8	259.6	258.7	258.0	260.7
1978	260.7	275.3	274.0	262.3	251.6	236.1	222.2	219.1	211.8	219.3	223.2	240.8
1979	258.9	254.4	241.9	237.9	229.7	232.0	244.1	235.2	232.3	221.0	223.3	
1980												

Source: Bureau of Mines

U.S. Production of Residual Fuel Oil and Distillate Fuel Oils In Millions of Barrels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct	Nov.	Dec	Total
1967	94.0	85.1	94.3	85.8	84.3	86.4	89.1	89.4	90.0	90.9	90.0	101.3	1,081
1968	102.0	99.0	102.0	87.9	91.5	88.8	92.9	91.9	85.5	86.4	89.8	98.8	1,117
1969	97.3	91.5	99.3	90.3	88.5	90.7	93.1	90.2	88.4	90.0	93.9	101.0	1,114
1970	105.5	95.8	101.3	90.6	88.5	89.3	91.2	95.5	93.3	96.7	97.5	109.3	1,155
1971	112.2	99.4	104.5	98.9	94.1	96.8	97.8	97.1	91.0	94.5	94.5	106.0	1,187
1972	107.4	104.9	105.3	96.6	100.9	98.6	99.4	101.1	100.1	107.6	108.4	126.1	1.256
1973	128.5	111.4	112.4	101.7	108.3	112.2	112.8	113.3	110.7	120.8	119.5	133.2	1,385
1974	122.5	96.0	97.3	105.2	114.7	114.3	119.3	117.0	107.6	117.8	120.9	132.1	1.365
1975	132.3	112.9	118.8	111.9	111.1	111.8	116.1	115.9	119.9	121.2	119.4	128.3	1.420
1976[1]	128.7	126.3	127.2	118.2	123.9	123.8	131.1	133.3	128.3	134.8	142.9	155.8	1.574
1977[1]	163.2	158.3	151.8	140.6	148.7	147.3	152.6	152.1	151.9	158.5	151.0	160.0	1.836
1978[1]	152.7	132.6	147.5	134.8	150.4	140.7	145.8	152.3	144.6	150.7	150.8	157.9	1.761
1979[1]	152.3	130.4	146.0	137.4	144.2	140.1	151.4	152.6	150.1	150.6	150.0		
1980													

[1] Preliminary. *Source: Bureau of Mines*

Plastics

Plastics materials production was expected to increase about 5 percent in 1980 to 44 billion pounds from 42 billion in 1979, the lowest growth rate in five years, because of weakening demand. But manufacturers' plans to expand capacity, as of late 1979, indicated that production of such volume resins as LDPE, HDPE, PP, PVC and PS should pick up in 1981. It appears that resin inventories were low at the beginning of 1980 as producers were trying to keep up with strong domestic and export sales. Reduced demand in 1980, in such key consuming sectors as housing, was expected to reduce pressures on order backlogs and feedstock supplies.

Since plastics are derived from petrochemicals, they are sensitive to the cost and availability of crude oil and natural gas. The cycle of prices rising rapidly during 1978 and 1979 to catch up with costs was expected to moderate in 1980. But prices were not expected to weaken, as has happened during previous periods when production was increased, because feedstock and other costs were expected to continue to rise. For example, the major raw materials xylene and toluene also are in demand as additives in unleaded gasoline, and this has pushed up their prices considerably. Feedstock supplies were expected to be sufficient to support the Commerce Department's growth projection, but over the longer term, substantial amounts of coal-derived products may supplement petrochemical sources.

Natural gas is an important source of ethylene and propylene, which are basic in the production of low- and high-density polyethylene (LDPE/HDPE), polyvinyl chloride (PVC), polypropylene (PP) and acrylics. Liquefied refinery gases obtained from crude oil are another source of ethylene, propylene, and butylene. Restrictions on the availability of benzene, ethylene, or propylene would, of course, diminish the supply of synthetic resins.

Major Markets

According to a survey by the Society of the Plastics Industries, the packaging industry is the largest market for synthetic resins, accounting for 25.8 percent of domestic consumption in 1978. The building and construction industry ranked second with almost 20 percent of the total. Others were: consumer and institutional, 10.3 percent; electrical and electronic uses, 8.4 percent; unclassified sales and sales to resellers and compounders, 8.4 percent; adhesives, inks and coatings, 8.3 percent; exports, 7.4 percent; transportation, 5.7 percent; furniture, 4.8 percent; and machinery, 1.1 percent. The Society noted that transportation uses are increasing in significance, having grown by 60 percent from 1975 through 1978.

A leading growth area is in pipe and fittings for plumbing. Plastic pipe, primarily PVC, constituted about 15 percent of the total market value in 1978—more than triple the use in 1970. Plastics are expected to continue to replace wood, metal, paper and glass in many applications. Plastics have advantages of strength, light weight and relatively low price.

Imports and Exports

The value of U.S. plastics exports in 1979 was estimated at more than $2.5 billion, while imports were put at $530 million. Exports were expected to increase about 10 percent in value in 1980 to about $2.8 billion. Future gains are expected to be at a slower rate because of competition for export markets from Europe and Japan, and from expanding production capacity in developing countries.

Exports of volume plastics were a fairly constant share of total production during the 1977–79 period. For example, 3.6 percent of PVC output was exported in 1977, 3.1 percent in 1978 and 3.6 percent during the first half of 1979. Exports in 1980 were expected to be in line with these figures. For the past five years, the U.S. share of the world export market has been fairly steady. But it has dropped drastically from 1966 levels, when the U.S. accounted for 22.5 percent of world exports. While the U.S. now accounts for about 13 percent of world exports, West Germany's share between 1975 and 1977 was 25 percent.

Multilateral Trade Negotiations

The completion of the Multilateral Trade Negotiations in 1979 resulted in the industrialized nations making substantial cuts in tariffs that were to be put into effect gradually over a 10-year period. Furthermore, many non-tariff regulations believed to be more significant trade barriers than the high import duties were reduced through agreements on such problems as subsidies, customs valuation, government procurement, standards and import licensing. These developments were expected to benefit the industry's trade activities.

World Production of Plastics and Resins[3] (Condensation, Polymeization, Etc.)
In Thousands of Metric Tons

Year	Australia	Austria	Canada	France	Germany East	Germany West	Italy	Japan	Netherlands	Poland	Belgium	Spain	USSR	United Kingdom	United States
1971	256	215	318	1,310	420	4,708	1,871	5,161	914	257	472	419	1,860	1,481	9,874
1972	290	233	400	1,562	458	5,471	2,176	5,573	1,080	299	626	509	2,040	1,631	12,046
1973	378	276	452	1,928	490	6,434	2,479	6,392	1,314	427	773	592	2,304	2,520	13,706
1974	402	286	430	2,060	517	6,271	2,468	6,722	1,644	395	835	701	2,496	2,419	13,764
1975	362	304	391	1,589	605	5,046	2,053	4,373	1,350	539	661	557	2,844	2,057	10,206
1976	407	404	494	1,530	679	6,444	2,266	4,952	1,723	559	824	847	3,216	2,556	13,261
1977	480	430	556	1,600	734	6,240	2,538	4,978	1,783	583	1,471	1,007	3,300	2,710	11,232
1978[1]	523	434	596	1,645	752	6,500	2,466	5,882	1,962	596	1,682	1,050	3,516	2,621	12,380
1979[2]	620	437	600	1,700	740	5,899	2,700	6,964	2,012	571	1,800		3,504	2,750	13,866

[1] Preliminary [2] Estimate [3] Refers to production of thermoplastic & thermosetting resins & plastic materials obtained by chemical transformation of natural organic substances or by chemical synthesis. *Source: United Nations*

Production of Important Synthetic Plastics & Resin Materials in the U.S. In Millions of Pounds

Year	Cellulose Plastics					Synthetic Plastics and Resins								
	Acetate & Mixed Esters													
	Sheets, Rods, & Tubes	Molding & Extrusion	Nitrocellulose, Sheets, Rods, & Tubes	Other Cellulose Plastics	Total	Phenolic Resins	Polystrene & Copolymers	Urea Melamine Resins	Polyvinyl Chloride & Copolymers	Alkyd Resins	Polypropylene	Polyethylene & Copolymers	Polyester Resins	Polymer Resins (Coumarone-Indene)
1970	140.9					1,186	3,550	624	3,756	600	1,031	5,844	646	315
1971			[2]			1,181	3,990	683	4,103	[2]	1,339	6,381	638	[2]
1972			[2]			1,441	4,890	[2]	4,332	[2]	1,731	7,656	[2]	[2]
1973			[2]			1,648	5,156	[2]	4,594	[2]	2,165	8,582	[2]	[2]
1974			[2]			1,512	4,968	[2]	4,821	[2]	2,258	8,821	[2]	[2]
1975			[2]			1,275	3,877	[2]	3,695	[2]	1,903	7,483	[2]	[2]
1976			[2]			1,305	4,743	[2]	4,545	[2]	2,551	8,775	[2]	[2]
1977			[2]			1,797	5,203	[2]	5,267	[2]	2,706	10,100	[2]	[2]
1978			[2]			1,926	5,989	[2]	5,878	[2]	3,055	11,359	[2]	[2]
1979[1]			[2]			1,771	6,171	[2]	6,183	[2]	3,706	12,582	[2]	[2]

Note: Data included in the table does not cover all Plastics production. Various types of Plastics production of lesser importance are not included because statistics are not available on a consistent basis. Also, many individual firms do not make their production figures known. [1] Preliminary. [2] No longer available. *Sources: U.S. Tariff Commission, Bureau of Census*

Average Wholesale Price Index of Plastic Materials in the United States (1967 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
					PE Resin, Low, Pkg. Firm (0661-0101.10)								
1975	168.3	168.3	168.2	168.5	168.5	168.1	168.1	168.2	174.0	175.0	175.6	178.2	170.8
1976	178.2	178.4	178.6	190.7	191.5	192.2	193.3	193.2	190.9	189.7	189.9	190.1	188.1
1977	187.7	185.2	189.5	197.7	197.1	196.9	194.8	194.8	194.0	195.2	195.6	195.2	193.6
1978	196.1	196.1	197.0	198.0	198.6	198.0	194.4	190.3	189.3	187.2	184.1	184.1	192.8
1979	186.6	186.9	186.9	203.3	210.1	213.2	225.2	225.0	225.8	243.2	247.0	249.0	216.9
1980													
					PE Resin, Low, G. P. (0661-0102.10)								
1976	178.7	179.4	179.2	194.4	194.9	195.5	196.7	197.0	194.6	195.2	195.1	195.1	191.3
1977	195.1	195.0	197.6	205.8	203.7	201.6	200.4	200.5	199.2	199.8	199.4	199.9	199.8
1978	205.6	200.9	199.9	203.2	203.2	202.1	198.8	196.6	196.6	196.6	196.6	196.5	199.7
1979	201.5	203.1	203.1	219.8	221.3	221.3	237.4	237.6	239.3	261.1	264.2	265.6	231.3
1980													
					Polystyrene Resin, G. P. (0661-0104.08)								
1976	188.4	197.7	197.4	196.3	196.9	193.7	194.7	193.0	183.4	182.1	180.7	182.7	190.5
1977	182.7	181.8	181.1	174.9	175.6	175.4	180.5	180.7	181.7	181.8	183.4	183.3	180.2
1978	183.3	183.3	183.3	N.A.	N.A.	N.A.	194.4	194.4	195.4	194.9	194.9	194.5	190.9
1979	205.2	N.A.	210.4	228.5	224.1	N.A.	254.6	269.1	311.2	310.1	312.8	313.9	264.0
1980													
					Polystyrene Resin, Rubber Modified (0661-0105.07)								
1975	185.9	183.0	183.5	183.4	169.9	168.4	166.7	165.4	164.9	164.8	165.0	165.7	172.2
1976	165.7	174.4	173.2	175.4	176.1	174.9	175.4	174.4	165.7	162.8	162.3	162.5	170.3
1977	162.5	162.1	161.6	157.1	157.2	158.8	161.9	161.7	162.8	163.2	164.4	164.6	161.5
1978	164.6	164.6	164.6	168.3	170.2	N.A.	171.6	171.6	172.7	171.7	171.7	172.1	169.4
1979	180.8	N.A.	N.A.	200.8	213.7	N.A.	220.9	236.7	272.9	272.6	273.3	274.9	238.5
1980													
					PVC Resin, G. P. (0661-0106.10)								
1975	178.9	178.9	178.9	178.9	156.3	156.3	163.8	169.5	169.5	169.5	170.4	170.4	170.1
1976	170.4	180.1	180.1	180.1	179.4	180.1	187.6	186.7	186.7	185.9	185.9	183.9	182.2
1977	176.2	179.0	179.1	182.4	184.3	187.1	190.9	193.8	195.8	193.9	191.3	188.1	186.8
1978	187.0	186.8	187.5	188.4	190.0	193.5	195.4	195.5	194.3	193.4	191.7	196.1	191.6
1979	198.0	200.6	210.6	212.6	216.8	219.0	225.0	232.0	230.9	244.0	245.8	244.7	223.3
1980													
					Phenolic Molding Compound (0661-0109.06)								
1975	184.8	184.8	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	183.3	187.9	183.9
1976	187.9	187.9	187.9	187.9	187.9	187.9	191.2	195.2	198.6	202.0	202.0	202.0	193.2
1977	202.0	202.0	202.0	205.4	205.4	202.0	202.0	202.0	202.0	202.0	202.0	203.8	202.7
1978	202.0	194.6	195.1	195.1	195.1	195.1	195.1	195.1	192.8	184.9	185.5	185.5	193.0
1979	185.5	185.5	200.3	221.6	230.2	230.2	234.9	233.9	236.0	239.7	242.5	239.7	223.3
1980													
1981													

Source: Bureau of Labor Statistics

Platinum and Group Metals

In 1979, world production of platinum-group metals was about 6.7 million troy ounces, up about 6% from 1978. The Republic of South Africa and the U.S.S.R. both increased output during the year and together accounted for 95% of the world total. Canadian production, affected by an 8 month strike at the major producer, resumed normal production after midyear. U.S. output continued to be derived solely as a byproduct of copper mining.

Sales of platinum-group metals to U.S. industries increased about 11 percent in 1979 to an all-time high of 2.58 million troy ounces, of which 53 percent was platinum and 40 percent was palladium. Automobile industry purchases accounted for 40 percent of total platinum-group sales, 59 percent of all platinum sales, 22 percent of the palladium sales and 27 percent of the rhodium sales. Use as catalysts in auto exhaust converters was the largest single use.

The platinum-group metals in 1979 were sold by at least 90 processors and retailers, largely in the Northeast, and were distributed among using industries as follows: Automotive, 40 percent; electrical, 18 percent; chemical, 15 percent; dental, 9 percent; and other, 18 percent. The automotive, chemical, and petroleum refining industries used the platinum-group metals mainly as catalysts; other industries used the metals in ways that took advantage of their chemical inertness and refractoriness.

Imports, which account for practically all of the annual U.S. requirements for primary platinum-group metals rose about 16 percent in 1979 to a record high of close to 3.5 million troy ounces. The Republic of South Africa was the most important import source, accounting for 60 percent of the total; followed by the U.S.S.R., 20 percent; and the United Kingdom, 9 percent. Some platinum-group metals are exported from the United States. And, in 1979 a total of 0.9 million troy ounces were exported, mainly to Japan, the United Kingdom, the Federal Republic of Germany, and Canada.

In the U.S., about 300,000 ounces of platinum-group metals were refined from scrap in 1979, an amount equivalent to 12 percent of sales to industry. The quantity of toll-refined secondary was much larger, amounting to more than 1 million ounces.

As of November 30, 1979, the U.S. stockpile inventory of platinum totaled 453,000 troy ounces vs. a goal of 1,314,000 ounces; palladium stockpile 1,255,000 ounces vs. a goal of 2,450,000 and iridium 17,000 ounces vs. a goal of 97,760 ounces.

Platinum prices continued to rise sharply in 1979, as they did in 1978, owing to continuing tight supply primarily reflecting reduced exports by the U.S.S.R., inflation, strong industrial demand, and intense speculative interest, particularly after midyear. Dealers' prices began the year at $350 per troy ounce, rose to $670 by October 2, then decreased to $470 in early November before soaring to $800 at yearend. The producers' price rose from $300 at the start of the year to $420 per troy ounce on December 19, 1979. The dealers' price for palladium at the yearend was $202 per ounce, with the producers' price $150 per ounce as of December 19, 1979, up from $120 at the start of the year. Dealer prices for platinum rose to $1,050 per ounce by early March, 1980, before dropping to around $555 by late April, while the producers' price was maintained at $420 per troy ounce.

Futures Market

Both platinum and palladium futures are traded on the New York Mercantile Exchange.

World Production of Platinum-Group Metals In Troy Ounces

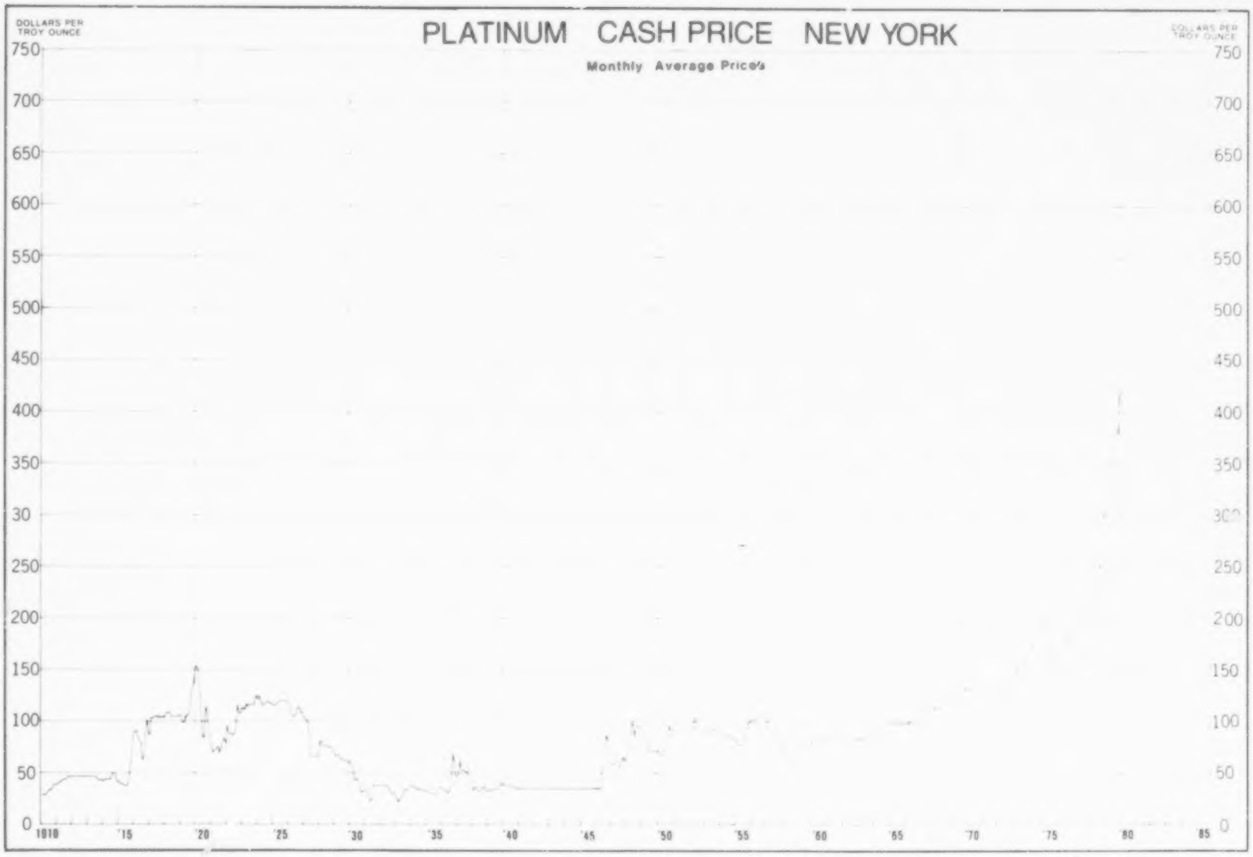
Year	Australia	Philippines	Finland	Canada	Colombia[3]	Ethiopia	Japan	South Africa	U.S.S.R.	United States	Yugoslavia	World Total[1]
1970	—	1,230	645	482,428	26,358	273	7,906	1,502,800	2,200,000	17,316		4,238,956
1971	—	2,459	600	475,169	25,610	217	8,826	1,253,200	2,300,000	18,029		4,084,110
1972	—	7,522	650	406,048	24,111	248	9,899	1,453,000	2,350,000	17,112		4,269,990
1973	975	6,656	725	354,223	26,358	235	10,197	2,362,800	2,450,000	19,980		5,232,149
1974	1,120	3,665	650	384,618	21,094	230	15,205	2,830,000	2,500,000	12,657		5,769,239
1975	1,830	1,415	600	399,218	22,114	162	19,401	2,600,000	2,650,000	18,920		5,713,660
1976	9,388	—	640	416,820	16,779	145	26,795	2,700,000	2,800,000	6,116	5,000	5,981,683
1977[2]	9,700		720	465,371	17,315	100	32,453	2,950,000	2,900,000	5,545	5,690	6,386,894
1978[1]	9,200		720	279,004	13,939	123	34,144	2,950,000	3,050,000	8,246	5,700	6,351,076
1979[1]				250,000	15,000			3,200,000	3,200,000	10,000		6,730,000

[1] Estimate. [2] Preliminary. [3] Placer platinum. *Source: Bureau of Mines*

Average Price of Palladium (Dealer Prices)[1] In Dollars Per Troy Ounce

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1973	71.00	71.00	68.00	65.00	73.43	77.50	81.75	84.00	84.00	84.00	84.00	84.00	77.31
1974	84.00	84.00	102.00	137.50	140.00	140.00	140.00	141.75	143.80	133.50	132.50	132.50	125.96
1975	124.32	105.00	93.92	90.50	73.27	57.71	55.86	58.30	50.52	47.60	44.00	44.00	70.42
1976	42.00	39.62	37.56	38.50	41.58	48.50	55.75	50.28	53.25	52.99	59.20	52.38	47.63
1977	54.06	58.10	57.82	55.20	52.97	45.18	44.90	42.36	42.20	43.07	48.83	51.97	49.72
1978	55.10	64.86	64.18	59.33	60.82	60.42	59.53	61.86	60.09	71.58	70.74	73.25	63.48
1979[2]	77	99	95	94	109	124	122	121	142				

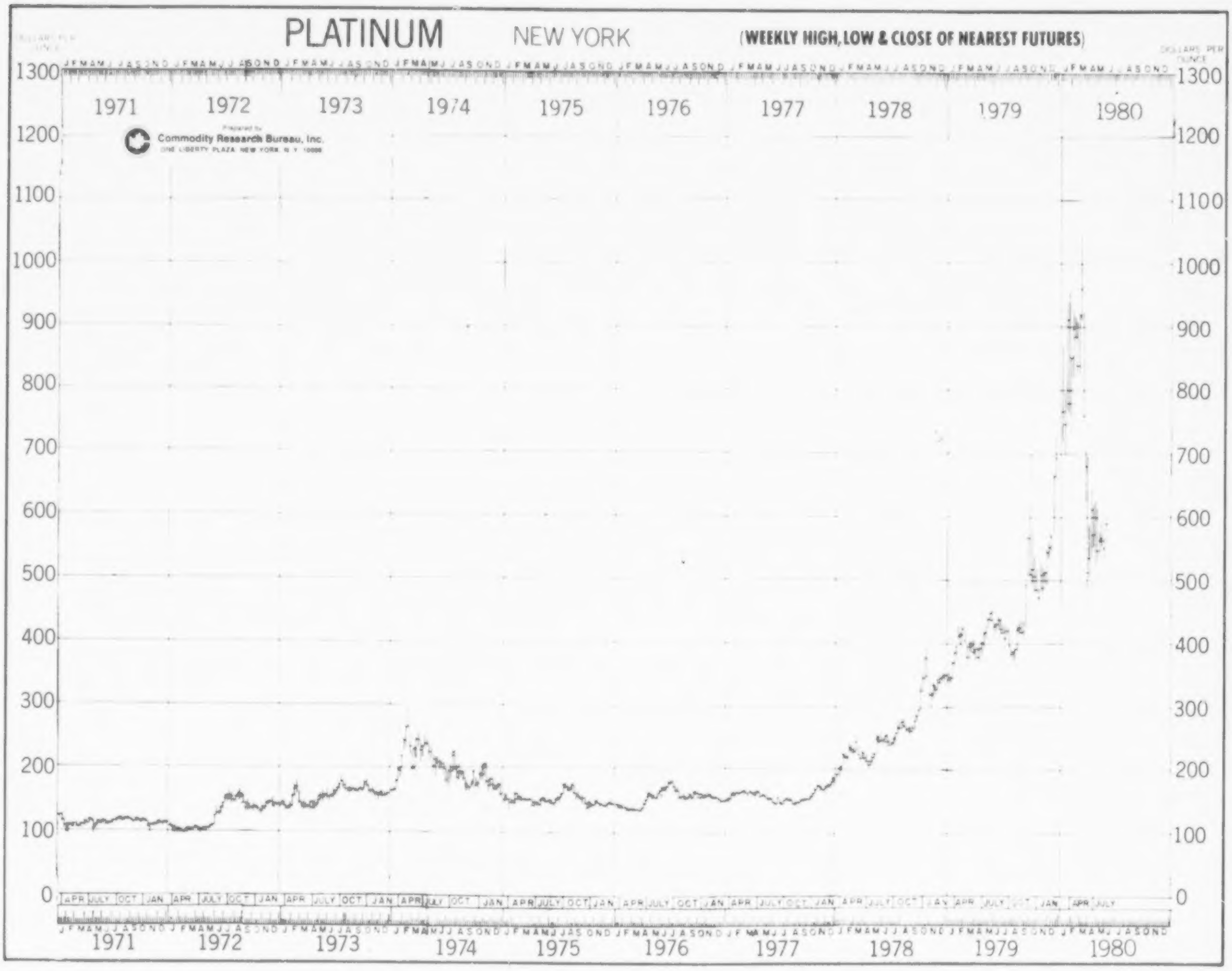
[1] Based on wholesale quantities, prompt delivery. [2] Estimate. *Source: American Metal Market*



Average Price of Platinum in New York In Dollars Per Troy Ounce

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1968	114.00	111.50	111.50	111.50	111.50	111.50	122.50	122.50	122.50	122.50	122.50	122.50	117.21
1969	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.75	132.50	132.50	124.18
1970	132.50	132.50	132.50	132.50	132.50	132.50	132.50	132.50	132.50	132.50	132.50	132.50	132.50
1971	129.00	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	122.50	123.04
1972	122.50	122.50	122.50	122.50	122.50	122.50	128.00	132.50	132.50	132.50	132.50	132.50	127.13
1973	132.50	141.97	152.50	152.50	152.50	152.50	152.50	152.50	155.24	160.50	160.50	160.50	152.18
1974	162.68	172.50	172.50	172.50	174.55	195.00	195.00	195.00	195.00	195.00	195.00	195.00	184.98
1975	195.00	180.53	175.00	163.06	160.00	160.00	162.73	175.00	175.00	172.17	160.00	160.00	169.87
1976	160.00	160.00	160.00	160.00	160.00	163.54	175.60	182.50	182.50	182.50	167.00	167.00	168.39
1977	167.00	167.00	167.00	167.00	167.00	167.00	167.00	167.00	167.00	167.00	167.65	174.81	167.71
1978	186.55	206.58	217.07	220.00	220.00	227.73	237.89	241.74	250.23	253.18	284.00	300.00	237.08
1979	303.41	325.00	325.00	327.38	350.00	350.00	350.00	357.83	380.00	380.00	380.00	393.33	351.83
1980	420.00	420.00	420.00	420.00									
1981													

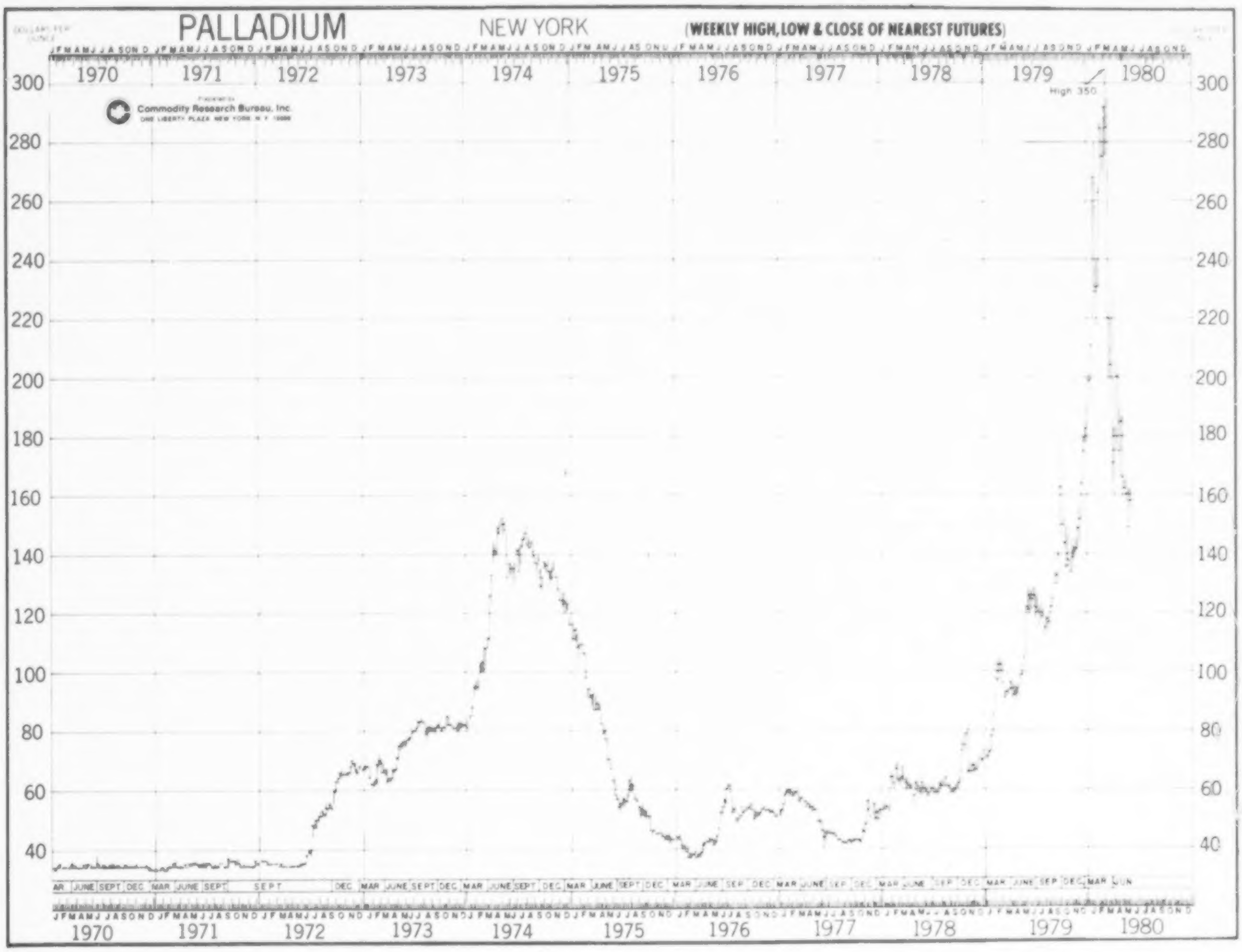
Source: American Metal Market



Platinum-Group Metals Sold to Consuming Industries in the United States In Thousands of Troy Ounces

Year	Automotive		Chemical		Electrical		Dental & Medical		Jewelry & Decorative		Petroleum		All Platinum-Group Metals			
	Platinum	Others[2]	Platinum	Others[2]	Platinum	Others[2]	Platinum	Others[2]	Platinum	Others[2]	Platinum	Others[2]	Platinum	Palladium	Other[2] Metals	Total
1967			159.4	220.2	99.7	340.4	24.6	55.6	33.3	31.6	245.6	4.4	633.9	621.1	79.3	1,334.3
1968			157.7	248.8	117.3	343.2	24.9	63.0	40.2	31.5	161.1	23.4	496.2	721.5	66.2	1,283.9
1969			175.4	248.3	112.6	445.3	22.3	54.1	36.2	32.3	58.6	5.0	519.4	758.7	83.0	1,361.2
1970			148.3	231.4	103.3	442.9	18.3	49.2	29.2	27.5	202.0	15.7	509.0	739.3	82.8	1,331.2
1971			135.1	253.8	51.9	447.6	23.1	63.1	18.6	30.6	141.8	3.5	426.7	760.1	74.5	1,261.3
1972			225.9	363.5	92.4	443.5	30.5	95.5	20.7	29.3	98.8	31.4	545.3	876.0	140.9	1,562.2
1973			239.0	334.1	117.4	551.1	27.9	136.3	22.4	38.9	123.6	20.3	658.5	1,012.5	160.9	1,833.9
1974	350.0	15.0	350.0	150.0	98.6	452.6	25.5	125.7	23.0	35.3	139.5	26.7	943.7	886.1	151.2	1,981.0
1975	273.0	97.0	148.8	166.9	73.6	153.1	17.1	115.9	22.9	29.5	108.0	5.4	698.6	541.5	68.6	1,308.7
1976	481.0	194.9	83.6	154.7	89.3	197.5	26.9	140.4	23.4	14.8	59.1	7.7	851.1	657.1	94.9	1,603.1
1977	354.4[1]	125.9	84.4	196.6	90.2	254.5	27.1	113.9	34.7	22.1	74.8	13.6	789.8	700.5	102.0	1,592.3
1978[3]	597.5	201.8	149.7	186.5	106.4	346.5	44.1	208.0	25.8	25.1	108.4	19.2	1,196.3	917.9	145.4	2,259.6
1979[3]													1,360.5	1,025.2	114.3	2,500.0
1980																

[1] Preliminary. [2] Palladium, iridium, osmium, rhodium, & ruthenium. [3] Estimate. *Source: Bureau of Mines*



Salient Statistics of Platinum and Allied Metals in the U.S. In Troy Ounces

Year	Production	Refinery		Stocks as of Dec. 31[1]				Imports For Consumption	Value of Imports Mil. $	Exports		
	Crude[5]	New Metal	Secondary Metal	Platinum	Palladium	Other	Total			Platinum	Other Groups[3]	Other[6]
1967	16,365	29,663	365,799	327,919	460,624	80,668	869,211	1,321,278	92.1	161,585	118,267	2,378
1968	14,793	12,305	329,455	322,932	393,882	85,897	802,711	1,773,984	125.7	222,998	172,159	
1969	21,586	17,875	371,659	361,305	608,716	98,087	1,068,108	1 225,851	93.9	223,569	277,495	
1970	17,316	19,822	350,176	291,544	332,726	85,754	710,024	1,410,786	104.8	270,584	143,182	
1971	18,029	21,184	278,175	385,828	316,126	94,837	796,791	1,388,043	93.7	320,842	83,768	
1972	17,112	15,380	255,641	426,611	405,793	98,449	930,853	1,892,184	144.1	417,037	121,949	
1973	19,980	19,916	265,901	446,522	493,078	93,524	1,033,124	2,504,181	248.8	439,452	188,074	
1974	12,657	13,234	325,216	532,675	478,210	110,921	1,121,806	3,251,311	504.6	474,494	361,260	
1975	18,920	16,571	270,101	420,770	335,621	92,819	849,210	1,820,284	272.8	284,796	283,435	91,654
1976	6,116	7,101	215,355	536,318	459,765	89,620	1,085,703	2,667,059	291.5	138,951	186,602	186,854
1977[2]	6,000	5,000	195,000	438,045	475,358	99,409	1,012,812	2,510,374	273.0	149,023	137,324	140,284
1978[2]	8,000	10,000	257,000	369,823	369,937	121,651	861,411	2,921,411	450.2	166,095	356,900	179,462
1979[4]	10,000	10,000	300,000	291,195	308,178	126,418	725,791	3,479,228	842.0	207,832	502,548	189,218
1980												

[1] In hands of refiners, importers, & dealers. [2] Preliminary. [3] Palladium, rhodium, iridium, osmium ruthenium, & osmium metals & alloys. [4] Estimate. [5] From crude platinum placers & byproduct platinum-group metals. [6] Ore & concentrates; waste, scrap & sweepings. *Source: Bureau of Mines*

Pork Bellies

Domestic consumption of bacon, as measured by bacon slicings, rose about 13 percent in 1979. According to USDA statistics, total bacon slicings for the year were about 1,609 million pounds, compared with 1,424 million in 1978. Despite the increase in bacon slicings, U.S. cold storage stocks of frozen pork bellies rose to 70.2 million pounds as of December 31, compared with 54.4 million pounds a year earlier, as pork production in 1979 was about 16 percent larger than in 1978. The retail price of bacon, which averaged $1.58 per pound in January 1979, dropped to $1.31 in August and ended the year at a December average price of $1.35 per pound.

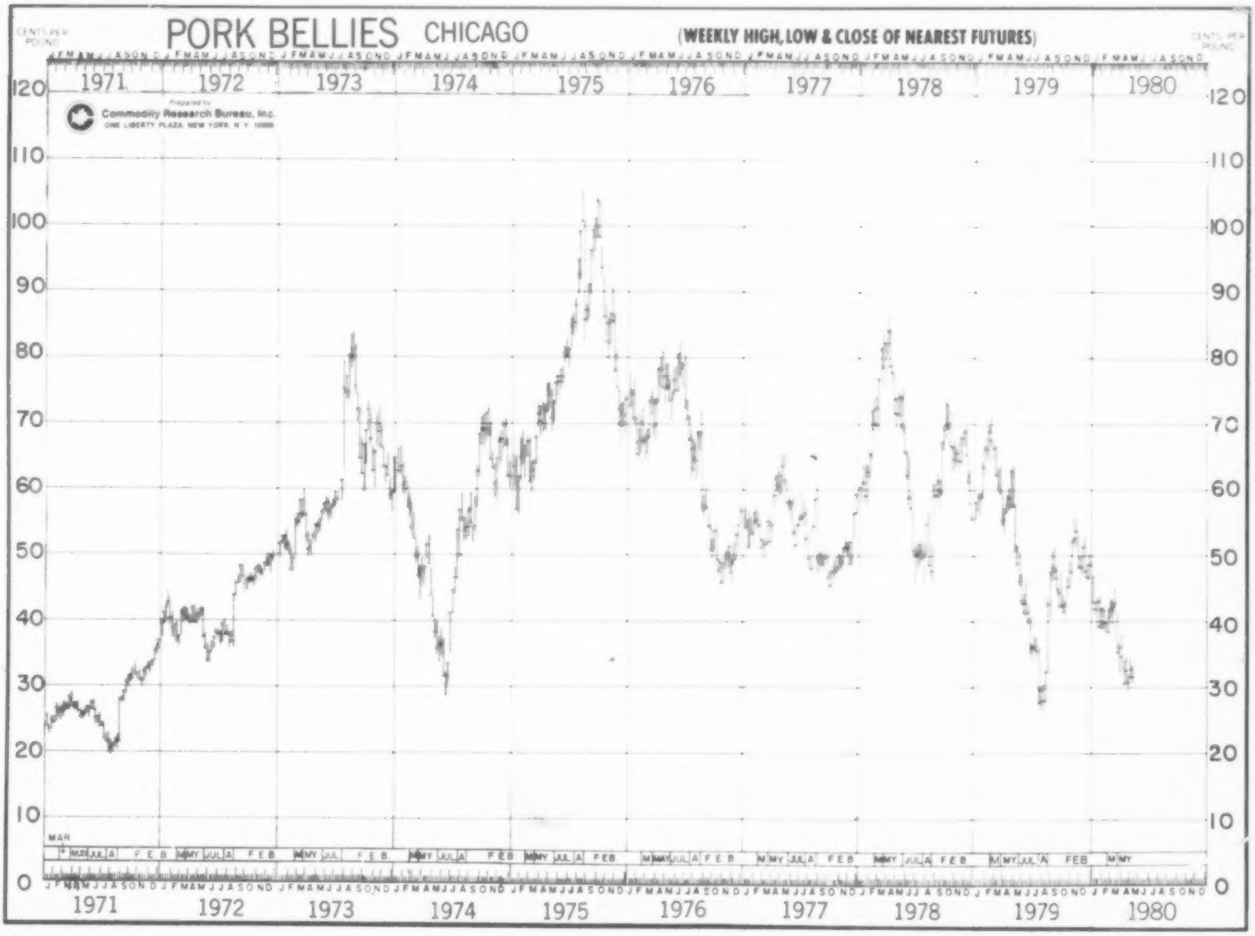
Pork production increased 21 percent in the first quarter of 1980, compared with the same period in the previous year and bacon slicings increased nearly 16 percent as retail bacon prices continued to slide. But U.S. cold storage holdings of pork bellies at the end of March 1980 were 48 percent larger than a year earlier and the largest March 31 holdings since 1972.

The USDA March 1980 Hogs & Pigs Report showed that the inventory of hogs and pigs on farms March 1 was 7 percent above a year earlier and the largest for the date since 14-state records began in 1970. Pork production is expected to be near record levels for much of 1980, suggesting that bacon output will continue at a relatively high level throughout much of 1980.

The controversy over the use of sodium nitrites in the curing and preserving of about 9 billion pounds of processed meat products a year (including bacon) continued into and beyond 1979. A General Accounting Office (GAO) report in January 1980 questioned the validity of a Food and Drug Administration (FDA)-sponsored study of a possible link between nitrites and cancer, but left it to the FDA to decide whether a new study should be made.

Futures Market

Pork belly futures are traded on the Chicago Merchantile Exchange.



U.S. Frozen Pork Belly Storage Stocks (In Thousand Pounds, as of First of the Month)

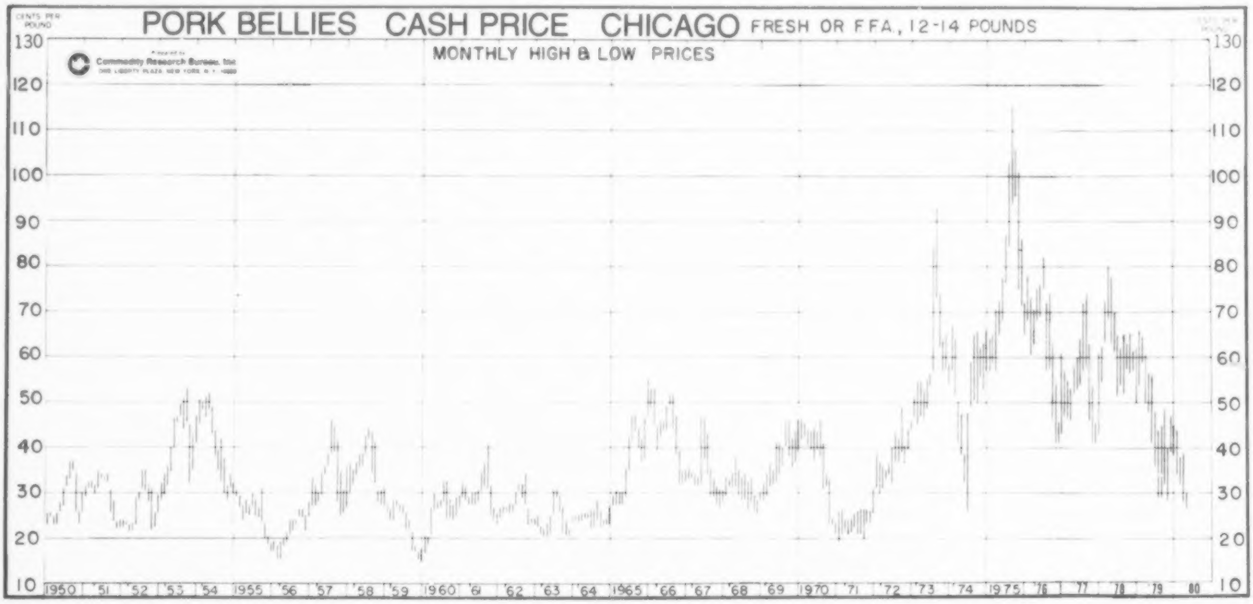
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1969	49,076	46,699	56,173	76,035	96,249	96,670	84,284	46,755	21,719	12,167	19,565	26,074
1970	38,697	37,017	47,094	61,068	74,004	82,061	67,250	39,300	20,393	9,823	21,043	42,054
1971	76,437	81,561	83,004	111,579	131,262	146,093	140,778	105,015	70,504	50,654	53,057	68,004
1972	86,065	84,092	88,090	107,013	131,189	133,069	105,727	69,933	35,792	16,691	22,175	34,167
1973	39,278	32,388	30,764	46,406	50,205	54,980	48,817	26,270	10,186	9,140	15,397	31,580
1974	48,758	48,499	53,083	65,237	78,707	87,290	70,470	39,621	21,762	12,850	22,274	38,441
1975	49,514	40,374	42,846	51,771	65,645	65,470	53,389	22,995	10,057	7,418	17,645	33,532
1976	44,722	37,386	38,526	51,176	60,144	63,799	49,258	25,773	8,689	5,858	9,708	24,946
1977	42,906	38,338	36,364	52,806	69,539	80,658	62,695	29,901	9,640	5,241	4,230	20,642
1978	23,747	19,013	15,738	39,631	70,976	82,343	75,027	44,787	21,015	7,482	20,013	40,964
1979[1]	54,367	39,432	37,209	57,744	69,689	86,065	78,961	53,373	21,844	11,070	17,745	42,164
1980[1]	70,201	69,683	67,890	85,272	97,471							

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Monthly Cash Pork Belly Prices—Fresh—12–14 Lbs. In Cents Per Lb.

Year		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1972	High	39	37	36	35	36½	40	42½	42	49	40¾	44	46	46
	Low	31	30	31	33	34	32	37	37	39	36½	39½	44	30
1973	High	51	54½	55	52½	55	57	84	93	74	63½	65	58½	93
	Low	47	45	47	46½	49	54	57	73	62	57	57½	54	45
1974	High	67	64	50	47½	38½	47½	59	65	65½	62	63	65½	67
	Low	57	51	41	38½	32½	26	49	50½	50	56	53	57	26
1975	High	64	65	70½	72¼	77½	87	103	115½	106	101	86	72	115½
	Low	57	59	57	65	68	76½	84½	94	95½	75	71½	65	57
1976	High	78	73	70½	75½	76	82	78	77	74	59	44½	52½	82
	Low	68	60½	62¾	68	69	75	68	68	50	39	39	39	39
1977[1]	High	57	55	53	58½	60	61½	72	73½	62½	54	46	61	73½
	Low	47	46	46	52	53	55	57	58	46	41	41½	43	41
1978[1]	High	62½	73	80	76	70	65	62	65	64	65½	61	62	80
	Low	55	64	67¾	63	62	52	54	52	57½	56½	56	50	50
1979[1]	High	66	64¾	60½	56½	56	48	44	45	48½	40	47	45	66
	Low	54	59	50	48	41	36	29	29½	32	28½	39	38½	28½
1980[1]	High	44	38	39	32									
	Low	34	32	28	24									

[1] Preliminary. *Source: National Provisioner*



PORK BELLIES

Week Ending	Weekly Federally Inspected Hog Slaughter (In Thousand Head)					Weekly Sliced Bacon Production Prepared under Federal Inspection (In Thousand Pounds)				
	1980*	1979	1978	1977	1976	1980*	1979	1978*	1977	1976
Jan. 7	1,378	1,179	1,247	1,399	1,407	33,500	25,800	24,398	25,361	27,827
14	1,972	1,625	1,473	1,357	1,326	34,400	33,000	29,069	26,788	28,060
21	1,762	1,389	1,376	1,495	1,227	36,600	31,700	26,560	27,660	27,245
28	1,785	1,345	1,261	1,344	1,203	35,400	29,600	27,430	27,633	24,259
Feb. 4	1,777	1,383	1,527	1,388	1,208	34,000	29,600	28,707	26,315	22,046
11	1,770	1,381	1,437	1,520	1,234	33,300	26,600	29,000	26,533	24,503
18	1,760	1,488	1,551	1,470	1,168	29,200	26,500	28,400	24,199	22,700
25	1,642	1,367	1,348	1,379	1,255	32,400	24,200	24,500	23,988	23,366
Mar. 4	1,765	1,533	1,424	1,534	1,273	33,000	27,200	24,700	26,804	26,189
11	1,806	1,592	1,579	1,632	1,422	33,800	27,300	25,300	30,129	25,520
18	1,898	1,663	1,508	1,568	1,403	32,000	27,500	23,200	26,339	23,126
25	1,885	1,607	1,422	1,509	1,383	30,900	27,700	21,700	25,877	23,502
Apr. 1	1,858	1,646	1,452	1,518	1,388	29,100	28,300	21,900	26,019	24,121
8	1,736	1,644	1,508	1,502	1,387	33,100	29,800	23,400	25,875	25,630
15	1,919	1,669	1,608	1,488	1,290	36,100	29,700	25,200	24,730	23,333
22	2,028	1,609	1,504	1,576	1,271	35,400	30,300	25,300	24,215	22,955
29	2,028	1,710	1,588	1,522	1,321	33,500	31,000	26,200	25,387	23,745
May 6	1,918	1,759	1,498	1,527	1,309		29,700	27,500	23,979	24,068
13		1,677	1,522	1,439	1,316		28,000	26,000	24,645	24,378
20		1,598	1,377	1,336	1,197		29,100	26,400	25,289	23,765
27		1,592	1,329	1,283	1,257		30,600	25,700	23,019	26,396
June 3		1,390	1,138	1,112	1,308		28,300	22,100	23,653	22,291
10		1,647	1,377	1,383	1,199		34,100	26,500	26,975	27,275
17		1,631	1,283	1,298	1,155		33,200	26,700	27,490	25,494
24		1,398	1,297	1,253	1,103		32,600	28,000	28,155	23,945
July 1		1,600	1,266	1,164	1,024		32,800	29,100	27,294	23,135
8		1,269	1,054	949	941		28,700	30,600	26,052	22,471
15		1,630	1,378	1,232	1,159		35,800	30,100	27,874	26,866
22		1,590	1,376	1,214	1,181		35,800	31,300	28,160	27,247
29		1,595	1,318	1,287	1,265		35,400	32,100	26,192	27,327
Aug. 5		1,638	1,337	1,264	1,342		37,400	30,300	26,971	28,166
12		1,662	1,367	1,315	1,344		36,400	30,100	30,356	28,413
19		1,692	1,329	1,342	1,322		35,300	29,100	27,916	28,092
26		1,664	1,349	1,368	1,401		36,700	29,100	28,362	27,817
Sept. 2		1,673	1,404	1,411	1,350		36,200	30,400	25,687	26,741
9		1,509	1,251	1,270	1,227		30,400	26,600	26,983	23,859
16		1,776	1,579	1,568	1,579		32,700	30,400	28,663	28,954
23		1,764	1,581	1,590	1,508		33,000	29,300	28,535	28,525
30		1,772	1,497	1,547	1,593		33,400	29,200	27,525	32,461
Oct. 7		1,870	1,479	1,505	1,647		31,500	27,600	25,183	29,823
14		1,950	1,533	1,582	1,660		33,700	26,800	29,808	28,044
21		1,929	1,475	1,597	1,669		36,000	28,100	29,508	30,948
28		1,909	1,478	1,487	1,599		33,800	26,100	28,077	27,982
Nov. 4		1,935	1,527	1,685	1,729		33,600	26,200	29,304	31,149
11		2,016	1,549	1,603	1,706		33,100	27,700	28,801	31,689
18		1,790	1,651	1,655	1,647		30,200	27,900	28,460	28,469
25		1,548	1,328	1,308	1,386		24,400	23,200	22,184	22,482
Dec. 2		1,981	1,642	1,623	1,644		29,100	30,300	27,983	24,745
9		1,940	1,613	1,462	1,614		30,000	29,200	28,119	28,109
16		1,861	1,497	1,504	1,522		30,300	28,900	27,857	27,312
23		1,746	1,489	1,369	1,140		28,500	28,500	25,806	21,524
30		1,277	1,149	1,187	1,206		24,100	23,200	23,707	23,104

* Subject to Annual Adjustment. *Source: U.S. Department of Agriculture*

Potatoes

U.S. potato growers produced an estimated 347.6 million cwt. in 1979, down 5 percent from the 1978 record of 365.2 million cwt., but still one of the largest outputs ever. The average yield was a record 272 cwt. per acre, reflecting a light winter crop, a respectable spring and summer harvest and a record fall yield of 281 cwt. Total harvested acreage in 1979 fell by almost 7 percent to 1,278,900 acres.

Though the fall crop fell to 301.6 million cwt. from 323.5 million in 1978, production still was heavy, and high yields were reported in Washington (475 cwt./acre) and neighboring producing states. The smaller crop failed to produce the improvement in price that growers had hoped for, and its movement to market was sluggish. Still, processors in the Pacific Northwest had contracted for a substantial share of their needs at $3.20 to $3.35 per cwt. (the same rate as in 1978), and stronger fresh market prices for Western potatoes buoyed the average price received by growers for the last quarter of 1979 to $3.40 per cwt., vs. $3.02 a year earlier.

The Midwest crop fell by 10 percent to 62.3 million cwt. from 69.3 million a year earlier. Yields were down, averaging about 212 cwt. per acre. But prices for round reds in early January were running ahead of 1978 levels, with the price for a 100-pound bag, f.o.b. the Red River Valley, standing at $4.38, compared with $3.00 a year earlier. However, the story was different in the seven major eastern states, whose fall crop was placed at 49.9 million cwt., 5 percent more than the 47.3 million of 1978. During December and January, Maine and Long Island prices for 50-pound bags were 20 to 30 cents lower than in the previous season.

Potato Stocks

U.S. stocks of potatoes remaining to be sold on January 1, 1980, totaled 183 million cwt., the second-largest figure ever reported for that date. This meant that only 114 million cwt. had been utilized between the fall harvest and January 1, compared with the 10-year average of 119 million cwt. and recent figures of more than 122 million cwt. Stocks on April 1, 1980, were estimated at 96.8 million cwt., 3 percent less than the 99.8 million estimated for that date a year earlier but still the second-largest on record.

Table stock sales from the 1979 crop were expected to total about 113 million cwt., a little more than from the 1978 crop. Fresh use was expected to increase somewhat because of the relatively large eastern crop and low prices. A record amount of potatoes was expected to go into freezers in 1979/80. Stocks of frozen potatoes were 4 percent larger on January 1, 1980, than they were a year earlier. But with continued strong demand for frozen potatoes—particularly french fries—in domestic and export markets, freezers were expected to absorb heavy quantities of raw product this season.

Dehydrated potato production continued to decline in 1979. The 1977 carryover was a record, and carryover from 1978 also was large. However, exports of potato flakes and granules expanded at a good pace. Between October 1, 1978, and September 30, 1979, exports of flakes and granules totaled 5.7 million cwt. (raw-weight equivalent), up 32 percent from the previous year. Exports of other dehydrated products increased 4 percent to 2.4 million cwt. Japan, West Germany and the United Kingdom are the largest buyers of U.S. dehydrated potato products. Approximately 30 million cwt. of potatoes were expected to be used for dehydration in 1980, down from 33 million cwt. during each of the previous two years, despite USDA plans to increase purchases of potato products during 1980 for donation to charitable institutions and use in domestic food programs. Dehydrated potatoes continued to be eligible for export sale under Public Law 480.

Chip use was expected to decline to about 36 million cwt. in 1979/80 from the 39 million used in 1978/79, reflecting the decline in real consumer disposable income. Other utilization of the 1979 crop was expected to follow the usual pattern of about 25 million cwt. to seed, 9 million to feedlots and 2 million to starch and flour.

Futures Markets

Round white potato futures are traded on the New York Mercantile Exchange. Russet futures are traded on the Chicago Mercantile Exchange.

Salient Statistics of Potatoes in the United States

Year	Acreage: Planted (1,000 Acres)	Acreage: Harvested (1,000 Acres)	Yield Per Harv. Acre Cwt.	Farm Disposition: Used Where Grown: Seed[2] (Million Cwt.)	Farm Disposition: Used Where Grown: Shrinkage & Loss (Million Cwt.)	Farm Disposition: Used Where Grown: Household Use (Million Cwt.)	Farm Disposition: Sold[3] (Million Cwt.)	Farm Price $ Cwt.	Value of: Prod.[6] (Million $)	Value of: Sales (Million $)	Stocks on Jan. 1[4] 1,000 Cwt.	Foreign Trade[5]: Dom. Exports (1,000 Cwt.)	Foreign Trade[5]: Imports (1,000 Cwt.)	Consump. Per Capita[7] in Lbs.
1970	1,450	1,421	229	10.0	23.9	1.4	291.9	2.21	714	644	138,140	2,928	1,230	117.5
1971	1,432	1,391	230	8.9	27.9	[2]	282.5	1.90	603		150,030	3,241	1,098	118.7
1972	1,301	1,256	236	7.9	20.0	[2]	268.5	3.02	896	808	151,435	4,430	759	119.4
1973	1,330	1,307	230	6.5	18.4	[2]	275.1	4.90	1,472	1,343	134,420	4,975	1,874	116.8
1974	1,422	1,392	246	6.5	32.5	[2]	303.4	4.01	1,355	1,215	133,665	4,545	1,453	114.3
1975	1,304	1,264	255	6.6	22.2	[2]	293.5	4.48	1,445	1,305	163,095	9,317	691	122.1
1976	1,407	1,375	260	6.8	26.2	[2]	324.7	3.59	1,283	1,167	159,140	11,617	806	116.1
1977[1]	1,398	1,359	261	6.8	31.0	[2]	316.8	3.55	1,254	1,126	174,775	3,630	714	121.6
1978[1]	1,398	1,371	266	6.4	34.3	[2]	324.6	3.38	1,222	1,097	178,205			123.9
1979[1]	1,317	1,279	272								196,080			124.0
1980[1]	1,300										182,755			

Note: 60 pounds equals one bushel. [1] Preliminary. Included in "seed." [2] Also feed. [3] For all purposes, including food, seed processing livestock feed. [4] Merchantable stocks held by growers & local dealers. [5] Year beginning July. [6] Farm weight basis. Excludes canned & frozen potatoes. [7] Fresh & processed. *Source: Economic Research Service, U.S.D.A.*

POTATOES

World Production of Potatoes In Thousands of Metric Tons[2]

Yr. of Harvest	Austria	Canada	Czechoslovakia	France	E. Germany	W. Germany	Italy	Japan	Netherlands	Poland	Spain	United Kingdom	U.S.S.R.	United States	World Total
1967	67		123	229	310	469	88	80	107	1,072	93	159	1,894	305	5,538
1968	77		144	221	279	423	87	89	111	1,120	100	152	2,028	294	5,684
1969	65		114	199	195	352	88	79	104	991	104	137	2,023	312	5,277
1970[2]	2,704		4,793	8,868	13,054	16,250	3,668	3,611	5,648	50,301	5,419	7,482	96,783	14,776	258,707
1971	2,717		4,621	8,994	9,512	15,176	3,268	3,271	5,749	39,801	4,857	7,396	92,655	14,486	238,067
1972	2,341		5,058	8,471	12,140	15,038	3,305	3,533	5,581	48,735	5,275	6,527	78,329	13,424	230,316
1973	2,117	2,158	5,087	7,459	11,401	13,676	2,947	3,413	5,771	51,928	5,579	7,808	108,201	13,580	264,977
1974	1,996	2,501	4,522	7,615	13,404	14,548	2,849	2,942	6,095	48,519	5,693	6,791	81,022	15,531	249,145
1975	1,579	2,111	3,565	6,865	7,673	10,853	2,900	3,261	4,743	46,429	5,338	4,551	88,703	14,617	242,177
1976	1,746	2,345	4,214	4,326	6,816	9,808	2,937	3,742	4,783	49,951	5,659	4,789	85,102	16,224	246,049
1977	1,352	2,488	3,760	7,802	10,313	11,368	3,080	3,520	5,752	41,148	5,881	6,622	83,652	16,083	248,499
1978[1]	1,401	2,476	3,863	7,459	10,100	10,510	2,801	3,316	6,231	46,648	5,316	7,330	86,100	16,567	256,543
1979[3]	1,368	2,508	3,800	7,076	11,000	8,747	2,700	3,286	6,150	50,032	5,250	6,590	85,000	15,800	257,314
1980															

[1] Preliminary. [2] Data prior to 1970 are in MILLIONS OF CWT. [3] Estimate. *Source: Foreign Agricultural Service, U.S.D.A.*

United States Potato Production by Seasonal Groups In Millions of Hundredweight (CWT.)

		Spring			Summer		Fall								
Year	Winter	Florida	Calif.	Total Spring	VA.	Total	Maine	Wisc.	Minn.	N.D.	Wash.	Idaho	Oregon	Total Fall	Total U.S.
1967	4.9	2.9	15.9	23.7			37.6		11.8	14.3		63.9		231.7	305.8
1968	3.9	5.0	14.1	20.5			36.4		12.2	15.7		59.5		221.9	295.4
1969	3.8	5.3	14.6	27.3	3.9	28.9	35.1	12.4	13.5	16.5	29.8	69.9	13.3	252.5	312.6
1970	3.6	4.3	14.5	25.9	4.0	28.4	35.7	13.0	11.4	17.8	33.6	74.7	15.2	267.8	325.7
1971	3.1	3.3	13.4	23.7	4.3	25.9	37.7	13.2	14.9	20.0	30.1	77.3	13.7	266.7	319.3
1972	2.3	3.2	11.1	21.0	4.1	23.7	33.3	11.5	13.3	17.4	31.4	77.3	14.4	249.3	296.4
1973	2.9	3.7	11.3	21.3	3.3	21.5	28.8	11.5	13.1	19.1	35.3	79.0	15.9	254.4	300.0
1974	2.9	3.8	13.7	25.0	4.1	25.1	36.4	14.0	15.3	23.0	41.2	81.2	17.5	289.3	342.4
1975	2.9	3.5	10.5	20.0	2.4	21.0	26.8	14.9	9.7	17.6	48.3	78.5	24.4	278.4	322.3
1976	3.0	4.5	13.5	24.7	3 5	22.5	27.4	15.4	11.1	16.9	55.8	88.5	28.9	307.4	357.7
1977	2.7	4.6	11.9	22.9	3.5	22.0	28.3	18.0	13.0	21.6	50.6	88.2	25.6	307.1	354.6
1978	2.6	3.7	8.3	18.0	3.0	21.2	26.0	17.3	14.9	22.4	50.7	100.3	28.5	323.5	365.2
1979[1]	2.4	4.4	11.1	21.3	3.2	22.3	28.8	17.0	12.9	18.2	48.9	88.2	25.3	301.6	347.6
1980[1]	2.4	3.2	8.8	16.9											
1981															

[1] Preliminary, December estimate. *Source: U.S.D.A.—Crop Reporting Board*

Potato Crop Production Estimates, Stocks & Disappearance in the U.S. In Millions of Cwt.

	Crop Production Estimates						Total Storage Stocks[2]					Disappearance of Previous Fall Crop Until				
	Total Crop			Fall Crop				Following Year					Following Year			
Year	Oct. 1	Nov. 1	Dec.	Oct. 1	Nov. 1	Dec.	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	Apr. 1
1967	301.5	303.2	305.9				161.5	139.2	112.6	86.5		69.5	91.9	118.5	144.8	
1968	289.6	293.0	293.4				152.8	130.4	105.0	81.9		68.0	90.4	115.9	138.9	
1969	305.4	305.1	307.2				162.8	138.1	111.5	87.6		76.0	100.5	127.3	151.1	
1970	320.2	323.5	324.9				175.1	150.0	122.2	96.8		78.4	103.1	131.3	156.7	
1971	317.0	318.5	316.1				176.4	151.4	124.4	98.5		77.5	102.4	129.4	168.2	
1972	296.0	294.5	294.5				158.6	134.4	107.3	83.4	58.3	90.4	114.5	141.7	165.5	198.0
1973	297.5	298.6	297.4				157.8	133.7	106.6	81.2	55.9	96.1	120.3	147.3	172.7	209.6
1974	337.8	339.0	340.1	286.6	287.9	287.7	187.9	163.1	133.4	104.1	75.9	97.8	122.6	152.2	181.4	200.6
1975	307.6	310.3	315.6				186.0	159.1	131.7	104.1	71.6	88.6	114.9	142.9	169.4	201.4
1976	349.9	349.3	353.4	299.8	299.2	302.8	202.0	174.8	143.9	114.1	81.9	99.1	128.3	157.8	188.0	218.4
1977	350.6	350.4	352.0	303.6	303.4	304.4	207.0	178.2	149.7	121.0	89.2	93.8	122.8	149.9	177.9	210.2
1978[1]	353.6	357.7	360.5	312.0	316.0	318.7	223.3	196.1	164.7	133.2	99.8	94.6	122.0	153.0	185.0	218.0
1979[1]	347.9	348.3	347.6	300.3	300.7	301.6	209.2	182.8	154.0	126.5		87.5	114.0	143.0	170.0	
1980																

[1] Preliminary. [2] Held by growers & local dealers in the fall producing areas. *Source: Crop Reporting Board, U.S.D.A.*

Wholesale Price of Potatoes at New York In Dollars Per Cwt.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Average
WHITE, WESTERN, NEW YORK[1]													
1973	8.250	8.625	9.333	9.500	11.750	12.750	13.083	13.500	9.250	10.000	11.500	10.750	10.690
1974	11.500	14.000	15.000	16.000	20.000	13.250	12.000	11.000	10.625	11.000	10.750	10.250	12.948
1975	9.925	9.750	8.500	8.750	11.750	11.750	13.750	14.500	12.000	12.750	12.250	12.000	11.473
1976	11.850	12.250	12.250	12.750	12.500	12.000	10.875	9.500	N.A.	N.A.	10.000	10.250	11.423
1977	10.250	11.500	11.000	11.500	11.500	13.750	10.500	16.500	N.A.	11.000	12.250	11.000	11.886
1978	N.A.	N.A.	N.A.	N.A.	12.500	14.416	17.916	16.834	15.000	14.626	12.500	12.250	14.505
1979	12.750	17.376	16.250	11.750	12.000	13.084	7.500	6.313	6.250	6.875	6.875	9.063	10.507
1980	8.500	7.438											
WHITE, EASTERN, NEW YORK[2]													
1972	3.638	3.500	4.450	4.325	4.350	4.023	5.250	4.986	4.450	4.867	5.125	5.267	4.519
1973	6.383	6.200	8.567	8.875	10.125	11.375	11.000	8.292	6.292	7.188	7.750	7.250	8.275
1974	10.417	11.250	12.500	14.917	16.083	11.750	9.750	6.692	6.688	5.025	4.670	4.700	9.537
1975	4.333	5.875	5.125	5.333	7.438	7.750	13.417	8.000	8.538	8.000	7.000	6.325	7.261
1976	8.375	10.375	8.375	11.467	11.583	8.500	8.063	6.250	5.000	5.250	5.500	5.683	7.868
1977	7.125	9.917	9.383	12.375	13.375	11.313	7.875	5.250	5.200	5.500	5.550	5.175	8.170
1978	5.250	7.917	6.475	8.150	10.000	9.917	10.500	6.500	5.000	5.500	5.500	5.133	7.154
1979	5.867	5.967	8.083	9.413	9.000	8.125	7.333	5.750	5.333	5.625	5.617	5.250	6.780
1980	6.000	8.500											

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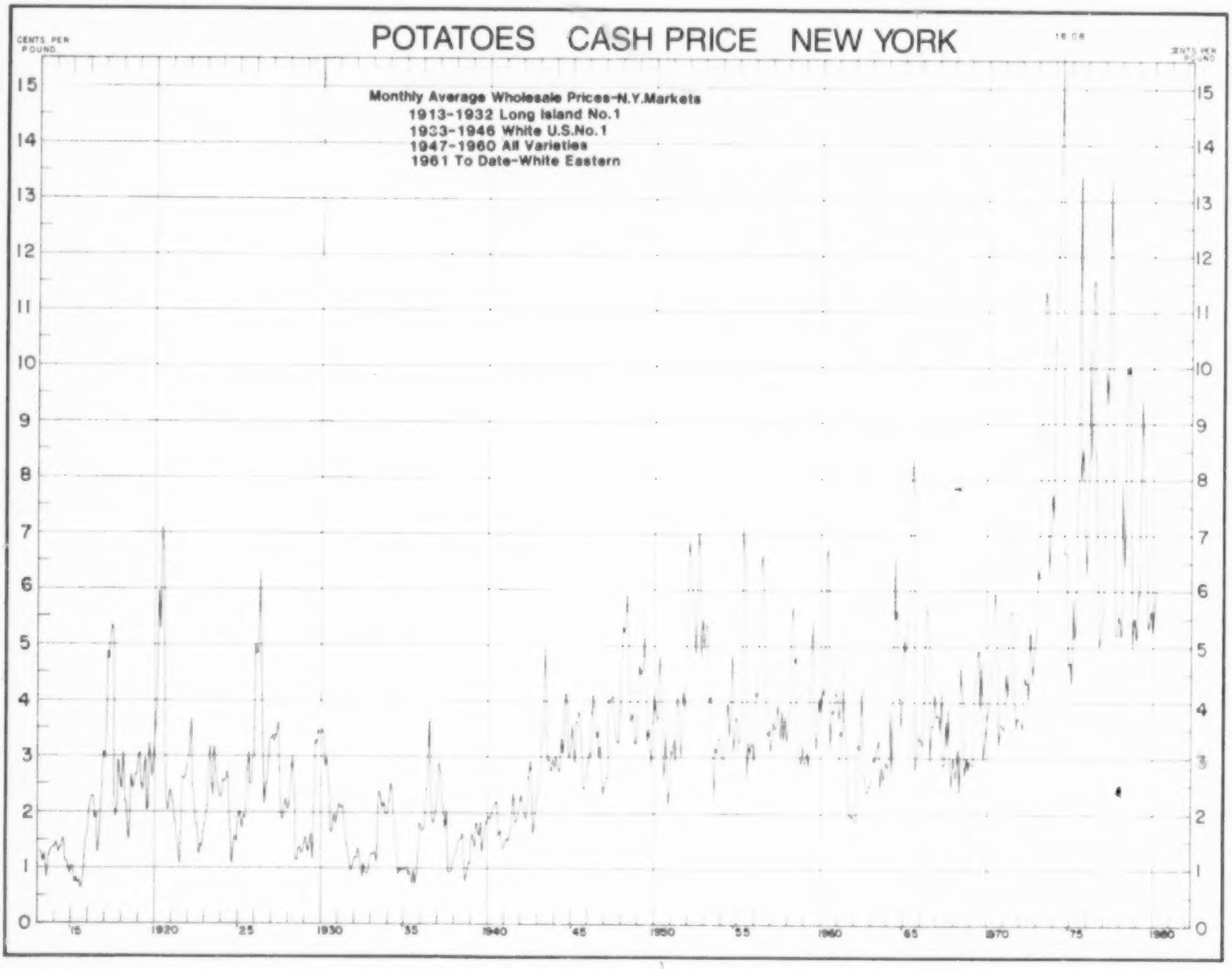
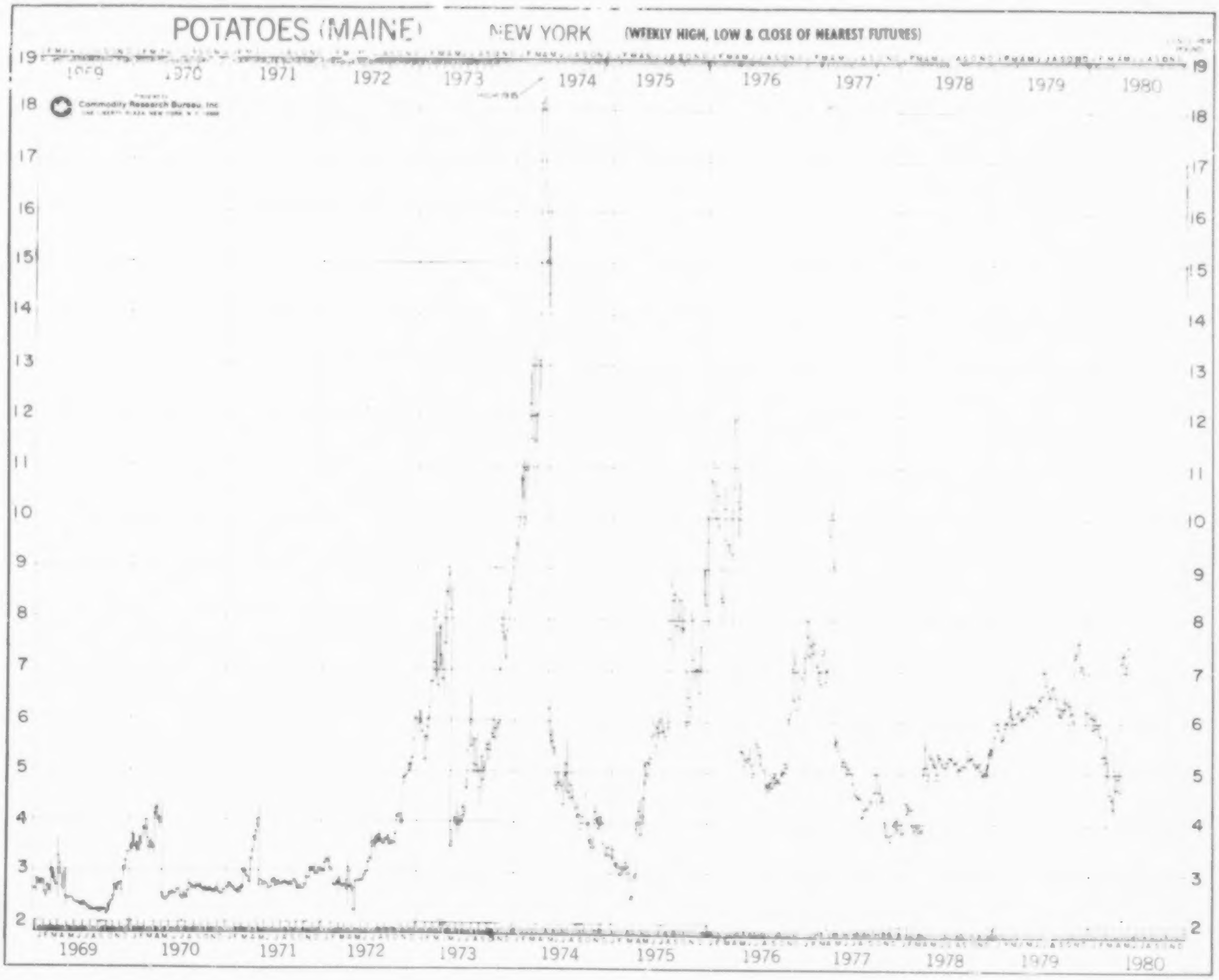
[1] All varieties and types of Irish old and new stock. U.S. No. 1A. Western origin, N.Y. Market (0113–0444.01). [2] Same. Eastern Origin. (0113-0443). *Source: Bureau of Labor Statistics*





Utilization of Potatoes in the United States In Millions of Cwt.

	Sales												
		For Processing							Other Sales				
Crop Year	Table Stock	Chips, Shoestrings	For dehydration	Frozen French Fries	Other Frozen Pdt's	Canned Potatoes	Other Canned Pdt's[2]	Starch & Flour	Livestock Feed	Seed	Total Sales	Used on Farms Where Grown	Total
1967	131.2	32.4	19.1	34.6	5.0	1.8	1.5	12.0	16.8	15.8	270.3	35.0	305.3
1968	124.5	34.0	22.8	37.8	6.8	2.2	1.8	7.8	8.9	17.4	264.0	30.0	294.9
1969	127.6	35.5	25.5	44.7	6.9	2.1	1.8	8.8	9.6	17.6	280.0	32.6	312.6
1970	129.5	35.9	26.1	54.5	7.4	2.4	1.9	8.6	8.3	17.6	291.9	33.8	325.7
1971	120.3	35.4	27.0	54.7	8.9	2.6	2.0	7.8	7.2	16.7	282.5	36.8	319.3
1972	111.7	34.6	27.5	56.1	7.9	2.1	2.2	3.4	5.0	18.0	268.5	27.9	296.4
1973	107.6	34.5	31.4	60.3	9.6	2.7	2.5	2.7	3.7	20.1	275.1	25.0	300.0
1974	125.6	32.8	34.7	69.2	9.2	2.6	2.1	3.7	4.2	19.4	303.4	39.0	342.4
1975	114.4	34.1	33.8	70.6	9.3	1.9	2.1	2.2	4.3	20.7	293.5	28.8	322.3
1976	123.1	34.6	40.4	79.7	12.9	1.9	2.6	2.8	6.3	20.5	324.7	33.0	357.7
1977	116.5	36.9	32.8	79.9	14.6	2.8	2.5	2.4	7.4	21.0	316.8	37.8	354.6
1978[1]	110.0	38.8	33.3	79.7	15.6	2.6	2.1	3.1	7.2	20.1	324.6[4]	40.6	365.2
1979[3]	113.0												360.0
1980													

[1] Preliminary. [2] Hash, stews, soups. [3] Estimate. [4] Includes 12.0 sold for livestock feed & starch under the U.S.D.A. diversion program. *Source: Crop Reporting Board, U.S.D.A.*

U.S. Cold Storage Stocks of All Frozen Potatoes[2]—(First of Month) In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	409.8	447.9	479.3	502.8	507.7	499.1	403.4	306.3	227.5	250.3	322.7	367.4
1968	386.8	406.9	447.3	476.7	486.5	456.0	370.0	253.6	193.3	223.0	294.3	359.1
1969	396.5	427.4	483.0	512.6	522.8	500.8	435.4	316.1	263.5	281.7	345.6	388.3
1970	440.4	459.5	492.6	534.3	569.4	565.4	478.5	341.4	287.0	336.6	433.4	512.3
1971[2]	548.8	616.7	650.3	708.5	719.6	737.7	679.9	521.2	380.3	448.9	558.0	627.0
1972	658.6	671.9	709.7	786.3	844.8	808.8	680.9	509.1	415.3	476.3	592.5	662.3
1973	677.3	666.2	734.5	755.3	746.6	671.6	509.9	316.7	246.7	311.8	427.7	496.8
1974	549.3	649.6	704.9	732.6	741.0	650.7	544.0	360.3	363.0	462.7	602.4	688.4
1975	693.5	723.0	797.8	814.4	906.7	945.1	881.1	661.1	536.1	548.9	651.6	689.1
1976	683.2	689.9	744.9	787.6	791.8	794.8	756.6	606.1	508.8	562.4	666.8	745.2
1977	750.4	777.2	809.1	870.8	893.3	903.0	886.5	720.5	576.4	611.0	726.7	805.0
1978	829.8	857.8	901.2	923.7	944.4	971.6	954.8	772.6	627.2	644.9	738.4	769.8
1979[1]	777.5	778.7	784.5	818.2	849.3	930.7	971.7	868.3	679.9	647.1	761.3	814.0
1980[1]	812.2	832.3	868.4	906.0	912.1							
1981												

[1] Preliminary. [2] Data prior to Feb. 1971 are for FROZEN FRENCH FRIED POTATOES ONLY.
Source: Crop Reporting Board, U.S.D.A.

U.S. Average Price Received by Farmers for Potatoes In Dollars Per CWT.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.[1]
1967	2.21	2.28	2.08	1.82	2.00	1.95	2.58	2.37	1.87	1.71	1.72	1.67	1.86
1968	1.68	1.57	1.45	1.90	2.64	2.69	2.91	1.91	1.85	1.77	1.92	2.09	2.23
1969	2.15	2.26	2.50	2.61	2.62	2.74	2.48	2.35	2.00	1.81	1.83	2.01	2.13
1970	2.22	2.34	2.58	2.67	2.80	2.98	2.68	2.58	2.05	1.99	1.91	1.96	2.21
1971	1.95	1.98	2.05	2.08	2.51	2.17	2.29	2.21	1.87	1.76	1.74	1.85	1.90
1972	1.84	1.81	1.83	1.80	1.99	2.37	3.68	3.08	2.41	2.13	2.55	2.76	3.01
1973	3.16	3.30	3.82	4.11	4.79	6.15	7.45	4.76	3.24	2.68	3.64	3.95	4.89
1974	4.88	6.23	7.08	7.96	8.11	6.43	5.59	4.78	4.05	4.09	3.88	3.51	4.01
1975	3.36	3.15	2.79	3.23	3.56	5.33	6.58	5.06	4.04	3.63	3.84	3.92	4.48
1976	4.61	4.64	4.95	5.22	5.10	4.44	4.35	3.86	3.20	3.17	3.04	3.10	3.59
1977	3.44	3.52	3.59	3.94	4.42	4.57	5.27	4.01	3.29	3.11	3.08	3.10	3.55
1978	3.24	3.20	3.25	3.29	3.85	5.39	6.63	5.07	3.54	3.08	3.12	3.02	3.38
1979[2]	3.09	2.77	2.94	2.81	3.14	3.08	3.53	3.76	3.20	3.15	3.34	3.40	3.47
1980[2]	3.53	3.32	3.22	3.18									
1981													

[1] Annual weighted average by sales. [2] Preliminary. *Source: Statistical Reporting Service, U.S.D.A.*

Volume of Trading in Maine Potato Futures, on N.Y. Mercantile Exchange In Carlots (50,000 Lbs. Per Car)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
1967	70,860	74,294	86,399	71,099	42,682	17,618	16,596	19,191	41,488	53,115	24,667	28,817	546,826
1968	29,732	40,956	34,931	81,588	34,850	5,542	10,611	30,279	52,500	41,665	45,986	46,208	454,848
1969	39,084	50,988	67,796	65,984	23,296	4,013	7,270	9,201	13,340	33,821	19,288	31,494	365,575
1970	45,995	36,815	58,995	52,471	30,761	5,303	8,493	15,739	18,703	24,418	12,560	16,437	326,693
1971	19,332	17,065	30,106	28,662	12,761	1,418	3,571	5,355	7,060	10,046	7,567	8,426	151,369
1972	22,435	25,945	20,406	20,469	10,813	9,843	19,843	24,855	25,480	24,162	15,312	27,040	246,603
1973	38,523	40,361	61,759	48,337	29,679	27,955	75,593	90,274	68,675	75,774	79,010	58,303	694,243
1974	104,727	71,891	78,662	67,759	43,722	39,126	63,646	72,341	60,339	87,303	40,590	40,765	770,871
1975	38,968	36,354	42,707	62,118	39,378	79,687	87,766	88,567	102,736	89,996	55,961	71,494	795,732
1976	79,128	85,009	85,294	55,992	21,309	8,680	14,348	12,669	10,795	14,652	17,171	54,467	459,514
1977	54,619	47,155	52,171	52,146	11,944	21,121	32,615	42,905	37,915	74,287	39,739	53,189	519,806
1978	55,269	44,671	45,075	53,844	12,859	18,487	19,670	41,255	36,754	48,503	38,099	38,643	453,129
1979	45,986	36,632	22,321	842	1,972	3,571	10,793	8,931	12,750	15,964	12,939	11,519	184,220
1980	13,849	12,656	14,443	9,650									

Source: New York Mercantile Exch.

Rapeseed

The Foreign Agricultural Service of the USDA, in April 1980, estimated 1979/80 world production of rapeseed at 10.7 million tonnes, about unchanged from 1978/79 output, but 36 percent above the revised 1972/73–1976/77 average of close to 7.9 million tonnes. Early frost cut sharply into Canadian yields and production was only slightly above a year earlier despite increased acreage. Severe winterkill in Poland and France also reduced the potential crop in those countries. Higher expected yields in India and a very good harvest in China completely offset weather damage in other areas, according to the USDA.

World production of rapeseed oil in 1979/80 (based on assumed extraction rates applied to that portion of each crop considered available for crushing and/or export—not actual production) was estimated by the USDA to be slightly more than 3.6 million tonnes, compared with estimated production of 3.7 million tonnes in 1978/79. Calculated world production of rapeseed meal was estimated by the USDA at 4.0 million tonnes (44 percent protein meal equivalent basis) only slightly more than estimated 1978/79 output.

Throughout the Seventies, plant breeders in Canada and Europe systematically manipulated the genetic structure of rapeseed to minimize or eliminate erucic acid from the oil and glucosinolates (sulfur compounds) from the meal. The improved oil and meal are gaining acceptance as general purpose edible vegetable oil and protein feedstuffs. Most European production is from fall-seeded *Brassica campestris L.* (turnip rape) which outyields the spring rape varieties of *Brassica napus L.* Both genera are comingled in commerce and, in Canada, are grown as spring-sown rapeseed. Canada is the world's leader in production of rapeseed as well as having the largest exportable supplies.

Futures Market

Rapeseed futures are traded on the Winnipeg Commodity Exchange.

World Production of Rapeseed (In Thousands of Metric Tons)

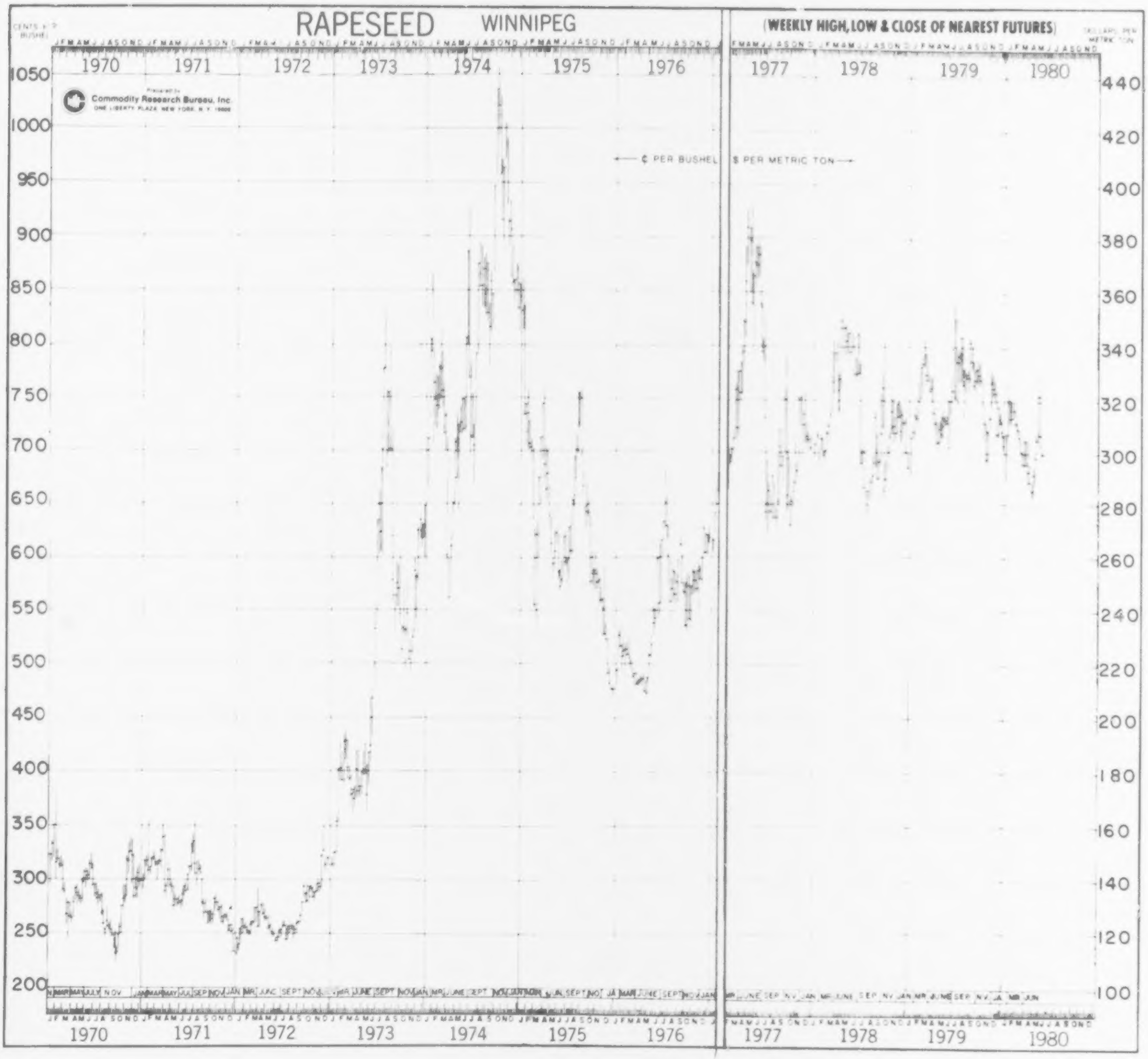
Year[2]	Canada	China	Czechoslovakia	Denmark	France	E. Germany	W. Germany	India	Japan	Bangladesh	Pakistan	Poland	Sweden	Chile	World Total
1967	585	800.0	85.0	39.2	432.5	272.6	124.6	1,228	79.2	120.0	270.0	651.0	245.7	60.7	5,127
1968	560	786.0	73.0	29.9	448.0	265.4	169.9	1,568	68.4	128.0	224.0	712.0	262.9	47.9	5,381
1969	440	688.0	48.0	21.1	514.0	163.8	158.1	1,347	48.0	126.0	246.0	204.0	208.0	63.6	4,751
1970	758	780.0	63.0	22.2	582.0	181.0	185.0	1,564	30.1	136.0	265.0	566.0	191.0	69.9	6,461
1971	1,638	830.0	100.6	51.0	668.0	197.0	228.2	1,975	22.8	112.1	269.0	595.0	254.0	82.0	7,815
1972	2,155	1,000	107.0	51	722.0	234.0	248.7	1,433	15.9	106.0	301.0	430.0	327.0	77.9	6,624
1973	1,300	1,050	117.0	92	661.0	246.0	242	1,808	13.0	98	287.0	512.0	339	35.0	7,00[illegible]
1974	1,207	1,075	85	112	690	280	301	1,692	9	107	293	523	351	33	7,022
1975[1]	1,163	1,090	115	115	532	250	194	2,300	7	110	305	726	327	55	7,989
1976[1]	1,749			90	561							980	279		
1977[3]	1,940	1,380		110	440			1,650			240	650	256		8,060
1978[3]	3,500	2,030			568			1,888			260	693	350		10,880
1979[3]	3,560	2,300			471			2,000			260	234			10,740
1980															

[1] Preliminary. [2] Harvest generally occurs in the first half of the calendar year given in all major producing countries except Canada. [3] Estimate. *Source: Foreign Agricultural Service, U.S.D.A.*

Wholesale Price of Rapeseed Oil, Refined (Denatured), in Tanks at N.Y. In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
1968	15.2	15.2	15.2	15.2	15.2	14.1	13.8	13.8	13.8	13.8	13.8	13.8	14.4
1969	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
1970	13.8	13.8	16.2	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.4
1971	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
1972	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
1973	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
1974	17.5	18.4	21.0	21.0	30.6	45.0	45.0	45.0	46.2	47.5	45.8	59.0	36.8
1975	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	59.0	51.2	46.0	46.0	56.2
1976	46.0	46.0	46.0	46.0	46.0	46.0	46.0	44.2	39.0	39.0	39.0	39.0	43.5
1977	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
1978	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
1979	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
1980	47.0	47.0	47.0										

Source: Economic Research Service, U.S.D.A.



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Rayon and Other Synthetic Fibers

World Production of Rayon &/or Acetate Filament Yarn & Monofilaments In Thousands of Metric Tons[3]

Year	United States	Bel. Netherlands	Brazil	Canada	France	W. Germany	Un. Kingdom	Italy	Japan	India	Poland	Spain	China	U.S.S.R.	World Total
1967	734.7	107.5	73.4	42.0	109.5	144.9	200.0	199.4	320.6	102.4		38.6		422.4	2,968
1968	805.2	110.7	81.3	46.1	109.5	157.2	214.7	201.[illegible]	313.7	112.4		39.9		454.1	3,132
1969	774.4	110.7	75.0	39.9	117.3	170.6	212.7	205.9	312.4	116.8		43.4		467.4	3,141
1970	730.8	110.1	73.4	30.6	113.8	169.5	200.4	186.3	299.6	121.9		44.8		489.6	3,070
1971[3]	341.4	47.7	33.6	15.1	52.8	75.1	85.2	83.1	120.9	55.2	28.8	22.5	20.0	230.0	1,401
1972	296.2	47.2	36.7	15.2	49.8	70.6	67.6	67.8	119.0	61.3	29.2	21.8	22.0	245.3	1,342
1973	288.2	47.1	40.8	15.1	49.2	71.1	72.6	66.4	128.3	56.8	30.1	21.6	26.4	259.3	1,362
1974	241.9	47.9	35.9	14.6	42.1	69.4	70.1	54.2	115.6	56.9	30.5	22.0	44.5	267.0	1,302
1975	166.1	35.3	30.7	13.1	28.1	4[illegible].8	62.5	41.3	103.2	54.2	28.3	16.4	49.0	281.4	1,136
1976	160.8	39.0	34.2	5.7	24.4	66.3	70.6	46.7	109.3	60.6	28.7	15.6	55.0	286.1	1,188
1977	160.0	36.2	28.8	11.0	20.8	63.7	62.6	44.4	107.4	58.9	28.6	15.0	61.0	290.0	1,167
1978[1]	164.6	36.0	24.1	12.3	18.9	59.7	59.7	39.3	109.8	61.0	28.0	13.8	65.0	300.0	1,164
1979[2]	170.0														1,161
1980															

[1] Preliminary. [2] Estimate. [3] Data prior to 1971 are in MILLIONS OF POUNDS. *Source: Textile Organon*

World Production of Rayon &/or Acetate Staple & Tow In Thousands of Metric Tons[3]

Year	United States	Austria	China	Czechoslovakia	France	W. Germany	Un. Kingdom	Italy	Japan	Poland	Spain	Sweden	India	U.S.S.R.	World Total
1967	653.4	126.2		108.0	128.2	379.2	304.9	201.1	809.7	117.1	58.4	66.8	114.6	448.0	4,329
1968	789.1	136.2		107.4	147.3	392.9	356.0	209.2	765.9	117.1	65.5	68.1	136.9	480.4	4,647
1969	801.8	143.5		105.8	171.1	381.0	342.8	233.0	781.5	116.8	79.6	65.9	129.2	491.6	4,694
1970	642.4	149.0		104.9	173.9	301.4	354.3	203.0	785.1	116.6	76.3	65.9	139.8	516.5	4,504
1971[3]	289.5	75.3	25.0	48.1	79.0	89.5	161.5	95.7	354.4	53.5	38.3	31.8	61.0	243.0	2,054
1972	336.2	82.6	27.4	48.9	84.5	73.0	172.8	99.7	367.9	59.7	45.7	33.3	70.7	262.4	2,217
1973	327.3	86.1	32.9	45.6	86.2	80.0	191.4	94.2	383.4	65.1	45.8	33.9	63.2	283.8	2,298
1974	301.8	88.6	55.4	50.5	83.7	80.0	147.1	85.4	328.7	66.6	46.0	32.6	77.6	301.6	2,230
1975	173.7	74.0	61.0	49.6	55.3	43.0	126.7	46.3	255.6	67.4	35.8	18.5	67.1	309.0	1,824
1976	220.6	88.9	70.0	50.3	60.3	51.0	118.6	59.8	250.3	66.9	41.0	30.4	83.7	325.8	2,020
1977	242.7	90.2	77.0	50.5	60.7	46.0	113.6	62.3	272.7	67.1	43.1	33.1	87.1	330.0	2,110
1978[1]	245.7	96.0	80.0	49.5	55.2	49.0	124.4	46.9	279.4	65.4	46.6	36.9	92.0	335.0	2,151
1979[2]	253.0														2,195
1980															

[1] Preliminary. [2] Estimate. [3] Data prior to 1971 are in MILLIONS OF POUNDS. *Source: Textile Organon*

World[5] Production of Non-Cellulosic Man-Made Fibers (Except Olefin) In Thousands of Metric Tons[8]

Year	United States					Canada	France	W. Germany	Italy Malta	Taiwan	Japan	Benelux	U.S.S.R.	United Kingdom	World Total
	Text. Glass Fiber[1]	Non-Cellulose Fiber[2] Yarn[3]	Non-Cellulose Fiber[2] Staple[4]	Non-Cellulose Fiber[2] Total	Total										
1967	308.8	1,215	1,138	2,353	2,662	97.6	241.5	554.5	306.5		1,191	163.0	255.4	427.9	6,014
1968	402.7	1,662	1,567	3,229	3,633	140.4	291.9	796.1	395.3		1,415	227.0	289.5	591.7	7,906
1969	501.4	1,767	1,761	3,528	4,029	151.0	344.6	997.2	471.4		1,666	275.2	313.7	642.4	9,211
1970	467.3	1,793	1,793	3,586	4,053	142.5	386.2	1,086	472.7		2,139	267.2	367.5	742.5	10,362
1971[8]	212	873.7	929.2	1,803	2,015	74.7	213.9	599.9	277.3	77.0	1,103	138.3	203.0	357.5	5,609
1972	259	1,101	1,142	2,242	2,501	75.3	237.9	639.6	291.6	102.1	1,054	149.2	238.6	373.9	6,377
1973	312	1,323	1,318	2,641	2,953	93.6	266.3	808.4	336.7	128.0	1,247	163.2	286.9	453.9	7,640
1974	310	1,352	1,233	2,584	2,894	92.0	237.7	764.9	296.7	142.8	1,126	155.3	318.5	396.1	7,487
1975	248	1,255	1,191	2,445	2,693	95.8	204.5	625.3	276.9	234.6	1,021	122.9	362.0	361.1	7,353
1976	307	1,266	1,480	2,746	3,052	96.6	248.8	759.4	376.6	272.4	1,204	146.3	400.0	414.2	8,594
1977	357	1,415	1,622	3,037	3,392	114.8	243.9	690.2	330.1	364.4	1,280	139.3	456.0	358.8	9,141
1978[6]	421	1,467	1,751	3,218	3,639	118.5	246.4	729.4	354.4	464.0	1,376	142.7	475.0	406.4	9,946
1979[7]	460	1,594	1,890	3,485	3,945										
1980															

[1] Textile glass fiber of all types, including some staple. [2] Acrylic fiber, nylon, polyester, saran, etc. [3] Includes monofilaments as well as some saran staple. [4] Includes tow, but does not include some saran staple. [5] The textile glass fiber data are included in the U.S. total excluded from the rest of the world data. [6] Preliminary. [7] Estimate. [8] Data prior to 1971 are in MILLIONS OF POUNDS. *Source: Textile Organon*

U.S. Rayon and Acetate Distribution In Millions of Pounds

	Yarn & Monofilaments								Staple & Tow & Fiber Fill						
	Producers' Shipments								Producers' Shipments						
	To Domestic Consumers								To Domestic Consumers						
Year	Industrial	Textile	Acetate	Total	Export	Total	Import	Domestic Consump.	Rayon	Acetate	Total	Export	Total	Import	Domestic Consump.
1967	163.3	147.8	421.0	732.1	18.2	750.3	7.7	739.8	625.9	49.5	675.4	4.3	679.7	85.0	760.4
1968	188.6	164.9	426.4	779.9	17.6	797.5	14.6	794.5	720.0	48.5	768.5	5.4	773.9	125.0	893.5
1969	159.0	135.7	444.7	739.4	16.0	755.4	4.1	743.5	737.9	42.3	780.2	5.0	785.2	91.2	871.4
1970	133.4	117.7	444.8	695.9	38.3	734.2	3.7	699.6	599.9	34.3	634.2	7.8	642.0	80.6	714.8
1971	164.5	132.5	432.3	729.3	33.2	762.5	5.2	734.5	643.6	26.2	669.8	3.7	673.5	81.3	751.1
1972	141.1	105.8	385.9	632.8	23.9	656.7	10.8	643.6	690.7	27.7	718.4	2.0	720.4	51.3	769.7
1973	121.8	75.8	392.3	589.9	60.7	650.6	18.1	608.0	709.5	25.0	734.5	14.7	749.2	47.4	781.9
1974	99.4	53.7	320.3	473.4	48.8	522.2	9.2	482.6	569.5	19.7	589.2	36.0	625.2	38.7	627.9
1975	——74.9——		293.7	368.6	32.9	401.5	9.2	377.8	373.4	12.0	385.4	20.2	405.6	37.9	423.3
1976	——65.1——		249.4	314.5	40.3	354.8	25.1	339.6	461.0	11.0	472.0	35.6	507.6	43.2	515.2
1977	——68.1——		259.4	327.5	25.2	352.7	23.5	351.0	444.9	8.0	452.9	62.3	515.2	57.8	510.7
1978	——63.0——		274.6	337.6	28.6	366.2	25.7	363.3	459.2	7.0	466.2	96.5	562.7	41.1	507.3
1979[1]	——55.0——		288.4	343.4	31.8	375.2	13.3	356.7	442.4	7.0	449.4	100.1	549.5	16.5	465.9
1980															

[1] Preliminary. *Source: Textile Organon*

U.S. Domestic Shipments of Synthetic Fibers In Millions of Pounds

	Yarn & Monofilaments								Staple & Tow							
	Cellulosic				Non-Cellulosic					Non-Cellulosic						
	Rayon															
Year	Industrial	Textile	Acetate	Total	Nylon	Olefin[2]	Polyester & Other	Total	Rayon	Nylon	Acrylic & Mod Acrylic	Olefin & Vinyon	Polyester	Total	Textile Glass Fiber
1967	163.3	147.8	421.0	732.1	907.4	116.1	144.8	1,168	625.9	120.6	371.2	40.5	537.2	1,070	302.7
1968	188.6	164.9	426.4	779.9	1,086	199.0	237.2	1,522	720.0	157.2	467.1	52.4	756.1	1,433	383.7
1969	159.0	135.7	444.7	739.4	1,063	188.6	364.5	1,617	737.9	202.7	473.4	61.7	883.3	1,621	460.4
1970	133.4	117.1	444.8	695.9	1,053	187.0	443.0	1,683	599.9	201.2	430.7	57.3	992.9	1,682	404.2
1971	164.5	132.5	432.3	729.3	1,207	246.5	646.9	2,100	643.6	330.1	463.7	58.9	1,111	1,964	464.9
1972	141.1	105.8	385.9	632.8	1,431	312.4	946.8	2,690	690.7	476.6	536.0	63.6	1,287	2,363	559.8
1973	121.8	75.8	392.3	589.9	1,545	395.4	1,334	3,274	709.5	586.8	662.0	69.3	1,530	2,848	663.0
1974	99.4	53.7	320.3	473.4	1,409	426.3	1,307	3,142	569.5	487.8	514.9	59.7	1,388	2,451	619.3
1975	——74.9——		293.7	368.6	1,290	436.1	1,489	3,215	373.4	557.9	467.3	54.7	1,474	2,554	524.6
1976	——65.1——		249.4	314.5	1,279	482.0	1,386	3,147	461.0	665.4	517.3	58.6	1,777	3,019	663.3
1977	——68.1——		259.4	327.5	1,396	539.6	1,526	3,461	444.9	791.7	619.8	81.3	1,880	3,373	769.3
1978	——63.0——		274.6	337.6	1,539	579.7	1,523	3,642	459.2	876.4	571.6	90.0	1,968	3,506	864.9
1979[1]	——55.0——		288.4	343.4	1,631	624.2	1,542	3,798	442.4	913.2	546.6	119.3	2,134	3,714	909.3
1980															

[1] Preliminary. [2] Includes film fiber. *Source: Textile Organon*

U.S. Mill Consumption of Fiber & Products & Per Capita Consumption

	Mill Consumption (Million Pounds)											Per Capita Consumption (Pounds)			
Year	Yarn & Monofilaments	Staple & Tow	Total R. & A.[2]	Noncellulosic Fiber	Textile Glass Fiber	Waste	Total Man-made	Cotton	Wool	Silk	Grand Total	Man-made	Cotton	Wool	Total
1967	739.8	760.4	1,500	2,421	303.7	124.0	4,245	4,414	366.6	2.8	9,029	21.4	23.5	2.2	47.1
1968	794.5	893.5	1,688	3,211	383.8	155.4	5,306	4,104	378.4	4.0	9,792	26.7	21.9	2.4	51.0
1969	743.5	871.4	1,615	3,468	460.5	139.2	5,552	3,973	354.9	3.3	9,883	27.9	20.9	2.2	51.0
1970	699.6	714.8	1,415	3,670	404.9	138.4	5,501	3,774	273.3	1.8	9,550	27.8	19.7	1.7	49.2
1971	734.5	751.1	1,486	4,557	466.7	185.0	6,529	3,965	219.3	1.7	10,715	33.1	20.5	1.4	55.0
1972	643.6	769.7	1,414	5,568	569.2	202.1	7,566	3,850	246.9	2.1	11,665	37.8	20.0	1.4	59.2
1973	608.0	781.9	1,390	6,599	676.0	223.3	8,664	3,643	182.1	2.8	12,493	42.1	18.5	1.0	61.6
1974	482.6	627.9	1,111	5,960	630.8	198.6	7,698	3,306	116.5	2.6	11,123	36.3	16.2	.7	53.2
1975	377.8	423.3	801.1	6,081	533.5	204.6	7,417	3,069	132.0	1.0	10,618	35.2	15.1	.7	51.0
1976	339.6	515.2	854.8	6,520	677.6	223.1	8,053	3,389	145.9	2.8	11,590	38.1	17.2	.9	56.2
1977	351.0	510.7	861.7	7,228	791.3	254.6	8,888	3,170	133.9	1.6	12,193	41.8	16.0	1.0	58.8
1978	363.3	507.3	870.6	7,461	886.7	210.3	9,228	3,040	141.6	2.0	12,412	43.2	16.2	1.0	60.4
1979[1]	356.7	465.9	822.6	7,712	922.6	149.3	9,465	3,066	134.5	1.5	12,667	42.7	15.1	.9	58.7
1980															

[1] Preliminary. [2] Rayon and acetate. *Source: Textile Economics Bureau*

RAYON AND OTHER SYNTHETIC FIBERS

Rayon and Acetate Production in the United States In Millions of Pounds

	Filament Yarn				Staple and Tow			Total Rayon & Acetate			
	Rayon										
Year	Indust.	Textile	Acetate	Total Yarn	Rayon	Acetate	Total St & Tow	Rayon	Acetate	Grand Total	Rayon Waste Shipments
1967	161.2	147.9	425.6	734.7	603.4	50.0	653.4	912.5	475.6	1,388.1	36.1
1968	202.4	162.9	439.9	805.2	739.1	50.0	789.1	1,104.4	489.9	1,594.3	44.3
1969	168.6	150.6	455.2	774.4	758.8	43.0	801.8	1,078.0	498.2	1,576.2	39.4
1970	146.4	121.2	463.2	730.8	607.4	35.0	642.4	875.0	498.2	1,373.2	34.5
1971	180.4	123.0	449.3	752.7	611.7	26.5	638.2	915.1	477.3	1,390.9	36.3
1972	146.7	105.0	401.4	653.1	713.2	28.0	741.2	964.9	429.4	1,394.3	38.5
1973	121.7	76.4	437.2	635.3	696.7	25.0	721.7	894.8	462.2	1,357.0	36.8
1974	112.9	58.9	361.6	533.4	645.4	20.0	665.4	817.2	381.6	1,198.8	29.9
1975	46.1	18.7	301.3	366.1	370.9	12.0	382.9	435.7	313.3	749.0	13.2
1976	67.6		286.9	354.5	475.4	11.0	486.4	543.0	297.9	840.9	14.7
1977	70.7		282.0	352.7	527.0	8.0	535.0	598.4	290.0	887.7	18.5
1978	62.0		300.9	362.9	534.6	7.0	541.6	596.6	307.9	904.5	15.7
1979[1]	56.8		316.6	373.4	549.6	7.0	556.4	606.4	323.6	930.0	17.2
1980											

[1] Preliminary. *Source: Textile Organon*

United States Imports of Man Made Fiber Manufactures[1] In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	11,800	16,957	16,396	12,248	11,131	12,670	15,378	15,573	14,287	16,849	17,971	18,037	177,866
1968	27,576	23,975	24,621	24,829	22,769	20,124	20,749	22,965	24,500	20,625	19,418	24,862	277,010
1969	7,220	8,667	17,477	21,880	18,192	21,284	19,268	21,510	15,968	15,000	16,760	14,598	200,467
1970	21,348	21,460	22,523	21,357	21,113	23,134	26,849	23,146	24,856	22,947	23,202	25,195	277,129
1971	30,091	30,164	41,900	45,931	40,903	42,484	34,824	35,665	44,583	33,922	12,926	31,728	425,125
1972	29,040	29,316	31,372	25,152	31,125	31,935	34,598	43,050	36,396	39,560	42,331	34,027	407,805
1973	39,342	37,026	37,196	29,606	33,635	30,971	29,453	23,544	17,909	22,729	20,252	13,371	335,353
1974[1]	26.3	25.10	25.76	27.12	31.12	33.45	38.37	36.53	31.53	35.88	31.03	28.49	371.25
1975	28.77	24.38	28.76	27.85	30.03	35.69	40.32	37.93	37.97	41.04	35.15	33.67	400.38
1976	36.38	29.56	36.71	35.57	38.84	47.48	54.32	46.68	41.67	36.88	40.68	34.55	479.32
1977	34.20	32.55	37.00	36.29	43.86	59.03	54.82	55.44	51.85	46.69	37.57	41.83	531.13
1978	45.54	46.68	46.34	53.87	59.74	67.70	70.41	64.90	58.31	50.47	41.08	37.54	642.59
1979	47.07	36.31	39.06	38.47	45.19	53.03	52.25	50.84	44.58	42.35	40.18	35.64	524.97
1980	36.39												

[1] Data prior to 1974 are for imports are for staple, tow, and tops. Imports of yarns and monofilaments are very small. (In THOUSANDS OF POUNDS.) *Source: Department of Commerce*

United States Exports of Man Made Fiber Manufactures[1] In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	14,583	15,135	13,767	13,782	14,284	13,882	11,868	13,868	12,667	14,439	14,228	14,692	167,124
1968	14,232	17,106	15,149	17,010	20,494	17,145	17,897	17,092	17,581	11,773	18,852	20,284	204,643
1969	10,728	11,044	21,414	22,933	21,163	18,537	18,430	20,319	19,896	21,151	20,523	21,729	228,023
1970	23,623	26,357	31,677	26,796	28,192	29,048	25,280	23,527	20,349	21,797	17,575	26,886	301,714
1971	26,477	27,420	30,681	31,908	28,684	27,834	27,115	28,754	36,051	12,576	12,995	21,632	312,122
1972	24,292	26,051	29,779	22,488	27,064	25,813	25,545	26,246	23,054	29,013	27,864	35,675	322,890
1973	37,953	41,859	43,278	48,232	48,112	46,503	45,325	38,295	56,641	54,957	52,238	55,657	569,270
1974[1]	31.00	33.70	38.34	39.82	37.03	37.22	30.46	30.88	30.17	30.66	28.05	23.50	390.73
1975	22.84	20.83	24.50	31.56	27.85	25.73	24.67	27.07	29.20	32.31	28.62	28.55	323.73
1976	26.13	27.22	32.09	29.11	30.14	29.91	25.99	25.59	31.78	30.76	31.33	32.12	352.17
1977	27.67	30.77	34.18	32.02	31.77	31.55	29.36	27.08	35.02	25.81	27.50	34.35	367.08
1978	27.84	29.24	36.83	35.57	39.06	36.63	32.06	35.38	38.12	43.68	44.41	42.88	441.70
1979	42.86	43.91	53.20	45.03	49.28	52.81	44.92	46.69	50.61	56.16	53.00	58.12	596.58
1980	47.25												

[1] Data prior to 1974 are for exports of yarns, monofilaments, staple, tow, & tops. (In THOUSANDS OF POUNDS.)
Source: Department of Commerce

Aver. Wholesale Prices of 65% Acetate/35% Nylon Tricot,[1] F.O.B. Mill[2] In $ Per Yd.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	154	154	153	153	153	154	155	154	153	153	146	141	152
1968	141	141	142	142	143	143	143	143	143	142	142	141	142
1969	142	142	142	142	143	143	142	142	142	141	141	141	142
1970	141	141	142	142	142	142	142	141	140	133	133	133	139
1971	133	133	128	128	126	125	125	125	124	121	121	119	126
1972	119	118	118	120	122	124	124	124	124	124	122	125	122
1973	125	126	128	130	131	131	131	132	132	132	132	132	130
1974	132	132	132	135	138	136	135	131	131	131	129	122	132
1975	122	122	122	124	124	127	127	126	136	140	140	N.A.	
1976[1]	.518	.503	.483	.458	.433	.406	.393	.378	.350	.340	.341	.343	.412
1977	.345	.350	.383	.419	.420	.446	.450	.440	.438	.445	.435	.435	.501
1978[3]	—	.443	.451	.456	.467	.472					49.6[3]	49.5	49.2
1979	49.1	47.0	46.9	47.5	47.5	47.0	47.4	46.9	46.1	—	47.1	46.9	47.2
1980	47.6												

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[1] Prices prior to 1976 are for YARN, ACRYLIC (spun), knitting ≦ 20, 3-6 denier IN CENTS PER POUND. [2] Gray, 32 gauge, 54", 3.2 oz./linear yd. [3] Beginning Nov. '78 prices are for 50/50 polyester/carded cotton printcloth, gray, 48", 3.90 yds./lb., 78 & 54–56. *Source: Bureau of Labor Statistics*

Aver. Wholesale Prices of 100% Textured Polyester Dk Jacquard,[1] F.O.B. Mill[2] In $ Per Yd.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	72	72	72	72	68	65	62	62	62	62	62	60	66
1968	61	61	61	61	61	61	61	61	61	61	61	61	61
1969	61	61	61	61	61	61	61	61	61	61	61	61	61
1970	61	61	61	61	61	61	61	61	61	61	61	61	61
1971	61	61	61	62	62	62	62	62	62	62	62	62	61
1972	62	62	62	62	62	62	62	62	62	62	62	62	62
1973	61	61	61	61	61	61	61	61	61	61	61	61	61
1974	61	61	61	61	61	61	61	61	61	61	61	61	61
1975	61	61	61	61	58	56	56	56	58	58	58	58	59
1976[1]	—	—	—	—	1.936	1.899	1.866	1.866	1.846	1.834	1.824	1.696	1.846
1977	1.741	1.789	1.819	1.846	—	1.695	1.662	1.668	1.642	1.642	1.609	1.674	1.708
1978	1.655	1.665	1.658	1.658	1.651	1.655	—	—	—	—	—	—	1.657
1979													
1980													

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[1] Prices prior to 1976 are for STAPLE POLYESTER, 1.5 denier F.O.B. producing plant, IN CENTS PER POUND. [2] 11 oz./linear yd., 60", yarn dyed, finished. *Source: Bureau of Labor Statistics*

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Rice

For the second year in a row, the 1979 U.S. rice crop was a record as exceptional yields and increased acreage in California offset lower yields in the southern rice production regions. California contributed over 24 percent of the total U.S. crop with the highest State average yield ever recorded.

Beginning stocks on August 1, 1979 for the 1979/80 season were 15 percent greater than the year before and with the bumper 1979 crop, the total U.S. supply stood at an all-time high of 168 million cwt. Due to the slow pace of the long grain market during the first half of the 1979/80 season, record stocks as of January 1, 1980 of 104 million cwt. were reported, of which 60 percent was long grain, 31 percent medium grain, and 9 percent short grain. Stocks on farms accounted for 31 million cwt., the largest ever for January 1.

Domestic use during August-December 1979 was 5 percent ahead of the same period in 1979. Total domestic use of rice was projected by the USDA to total 50 million cwt. with use of rice by the beer brewing industry projected to increase 8 percent to 12 million cwt.

Despite the decreasing and eventual elimination of exports to Iran, which had been the largest export market for U.S. rice, both total export commitments and accumulated exports were above year-earlier levels through the first half of the 1979/80 marketing year. U.S. rice exports in 1979/80 were projected to reach a record 83 million cwt., up 8 percent from the previous season's record.

Farm prices were well above last year's levels, with the August-December 1979 average $9.87 per cwt. compared with $7.87 for the same period in the previous year. Since the August-December average price of $9.87 was above the 1979 crop target price of $9.05, no deficiency payment was made to allotment holders in 1980.

The 1980 Government Support Program

The 1980 target price is $9.49 per cwt. and the loan and purchase rate is $7.12 per cwt. There are no set-aside or diversion requirements. The national rice acreage allotment remains 1.8 million acres but producers are not limited to their acreage allotments. However, only the rice produced under the acreage allotment is eligible for program benefits.

Rice prices reached the reserve call level of $10.86 per cwt. in mid-February 1980. Producers with rice in the farmer-owned reserve had 30 days after the "call" to redeem the reserve loan or forfeit the rice to the Commodity Credit Corporation, but were not obligated to sell their rice.

World Trends

The 1979/80 world rice crop is estimated by the USDA at 374 million tonnes, 2.6 percent below last season's record harvest. All of the decline, and more, is represented by a drop of 15.5 million tonnes in India's production due to a monsoon failure in the summer of 1979. However, India has a comfortable level of reserves, but world supplies are expected to tighten as stocks are drawn down.

Thailand's production during 1979/80 is estimated

World Production of Rough Rice In Millions of Metric Tons

Crop Year	Brazil	Burma	China	Vietnam[3]	India	Japan	Indonesia	South Korea	Bangladesh	Philippines	Pakistan	Taiwan	Thailand	United States	World Total
1967–8	7.0	7.8	*Avg.*	4.7	59.3	18.1	16.3	4.9	*70*	4.6		3.2	11.2	4.1	284.3
1968–9	5.2	8.0	*(89.1)*	4.4	59.7	18.1	16.2	4.4	*Avg.*	4.4		3.3	11.2	4.7	289.0
1969–0	6.3	8.0	95.5	5.1	60.6	17.5	17.5	5.7	*(16.6)*	5.2		3.0	13.4	4.1	299.9
1970–1	6.3	8.1	97.5	5.7	63.7	15.9	23.1	5.6		5.3		3.2	13.3	3.8	309.1
1971–2	5.4	8.2	100.0	6.1	64.7	13.6	18.7	5.6	15.7	5.1		3.0	13.4	3.9	313.8
1972–3	6.2	7.4	98.0	5.9	58.0	14.9	19.0	5.8	14.8	4.4		3.1	12.2	3.9	302.3
1973–4	6.4	8.6	113.0	6.6	66.1	15.2	21.5	5.8	17.6	5.6	3.7	2.8	14.4	4.2	324.3
1974–5	7.0	8.6	120.0	11.9	59.4	15.4	22.5	6.2	17.1	5.7	3.5	3.3	14.5	5.1	330.0
1975–6	8.5	9.2	119.0	10.9	74.3	16.5	22.6	6.5	18.8	5.8	3.9	3.4	15.2	5.8	352.3
1976–7	8.0	9.3	125.5	11.5	64.2	14.7	23.3	7.2	17.7	6.5	4.0	3.6	15.8	5.3	348.2
1977–8[1]	7.5	9.5	129.0	11.8	79.1	16.4	23.3	8.3	19.5	6.9	4.4	3.6	15.0	4.5	370.8
1978–9[2]	7.6	10.5	137.0	11.3	80.8	15.7	25.8	7.4	18.5	7.3	4.9	3.2	17.0	6.0	385.2
1979–0[2]	8.0	9.9	140.5	9.9	65.3	14.9	26.3	7.7	18.8	7.6	4.8	3.1	15.8	6.2	374.8
1980–1															

[1] Preliminary. [2] Estimate. [3] Data prior to 1974–5 are for So. Vietnam. *Source: Foreign Agricultural Service, U.S.D.A.*

U.S. Rice (Rough) Production by Type and Variety In Thousand Cwt.

Year	Long Grain	Medium Grain	Short Grain	Total	Year	Long Grain	Medium Grain	Short Grain	Total
1967	40,379	37,206	10,531	88,116	1974	59,934	41,387	11,065	112,386
1968	40,115	38,710	10,261	104,142	1975	63,593	52,255	12,589	128,437
1969	43,888	34,508	8,148	91,904	1976	70,051	36,792	8,805	115,648
1970	36,101	31,270	9,955	83,805	1977	62,206	26,272	10,745	99,223
1971	49,973	29,455	8,497	85,768	1978[1]	84,792	36,454	11,924	133,170
1972	42,584	33,985	8,821	85,439	1979[1]	84,930	40,700	11,037	136,667
1973	43,807	39,347	9,611	92,765	1980				

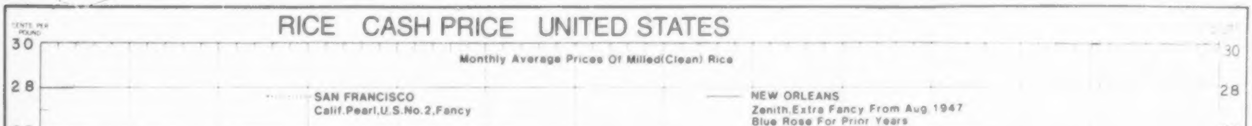
[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

as a drought-reduced 15.5 million tonnes with exports estimated at 2.2 million tonnes during calendar 1980. Consequently, with world rice trade expected to total 11.5 million tonnes, the U.S. should emerge in calendar 1980 as the world's largest exporter of rice. U.S. exports in 1980 were estimated in early May to total 2.9 million tonnes. However, the U.S. remains a minor producer with less than 2 percent of the world's rice production.

Average Wholesale Price of Rice[1] No. 2 (Medium Grain) Southwest Louisiana
In Cents Per Pound (In 100 Pound Bags)

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
1967–8	8.50	8.50	8.50	8.50	8.50	8.50	8.80	9.00	9.00	9.00	9.00	9.00	8.75
1968–9	8.70	8.10	8.30	8.30	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.40	8.44
1969–0	8.40	8.50	8.60	8.60	8.60	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.52
1970–1	8.50	8.50	8.60	8.70	8.70	8.60	8.60	8.60	8.60	8.40	8.70	8.70	8.60
1971–2	8.70	8.70	8.70	8.70	8.90	8.90	8.90	8.90	8.90	9.10	9.10	9.10	8.88
1972–3	9.10	10.00	10.50	12.50	12.50	12.90	12.90	12.90	15.30	15.30	15.30	15.30	12.88
1973–4	16.30	18.50	21.30	29.50	30.00	30.00	30.00	30.00	30.00	30.00	25.00	25.00	26.30
1974–5	23.0	20.0	18.5	20.0	20.8	20.5	21.0	20.5	20.5	18.5	19.5	19.5	20.19
1975–6	19.5	16.8	16.8	17.0	17.8	15.5	15.5	13.5	13.0	15.5	15.5	15.5	16.0
1976–7	13.5	12.5	13.0	12.3	12.3	11.3	11.8	12.1	13.3	15.6	15.5	15.3	13.2
1977–8	14.5	15.0	15.4	20.5	21.5	21.5	—	21.5	20.5	19.0	—	18.5	18.8
1978–9	17.5	14.5	14.5	14.5	14.8	14.0	14.0	14.0	16.5	16.5	16.5	16.5	15.3
1979–0	19.0	20.0	20.5	20.5	19.5	20.0	22.0	23.5					

[1] Prior to May 1972 price is for MILLED NATO at New Orleans. *Source: Bureau of Labor Statistics* (0213–0101)



RICE CASH PRICE UNITED STATES

RICE

Acreage, Yield, Production, and Prices of Rice in the United States

Crop Year	Acreage Harvested (1,000 Acres)			Yield Per Harvested Acre (In Lbs.)			Production 1,000 Cwt.			Farm Value of Production $1,000	Farm Price of Rough Rice $ Per Cwt.	Wholesale Prices ($ Per Cwt.)	
	Southern States	California	United States	Southern States	California	United States	Southern States	California	United States			Milled No. 2[2]	Houston[3]
1967–8	1,610	360	1,970	4,456	4,900	4,537	71,739	17,640	89,379	443,995	4.97	8.65	10.05
1968–9	1,921	432	2,353	4,220	5,325	4,425	81,071	23,004	104,142	521,237	5.00	8.50	9.80
1969–0	1,739	389	2,128	3,987	5,525	4,318	69,346	21,492	91,904	455,045	4.95	8.65	9.90
1970–1	1,484	331	1,815	4,373	5,700	4,618	64,938	18,867	83,805	433,186	5.17	8.90	10.05
1971–2	1,487	331	1,818	4,513	5,200	4,718	68,556	17,212	85,768	457,697	5.34	9.15	10.20
1972–3	1,487	331	1,818	4,415	5,700	4,700	66,571	18,868	85,439	574,907	6.73	13.55	14.45
1973–4	1,769	401	2,170	3,970	5,616	4,274	70,244	22,521	92,765	1,279,990	13.80	27.40	31.75
1974–5	2,054	477	2,531	4,252	5,290	4,440	87,165	25,221	112,386	1,261,359	11.20	19.90	22.05
1975–6	2,277	525	2,818	4,284	5,800	4,558	97,536	30,436	128,437	1,071,924	8.35	17.35	18.35
1976–7	2,081	399	2,480	4,490	5,520	4,663	93,445	22,203	115,648	811,358	7.02	14.10	14.95
1977–8	1,941	308	2,249	4,189	5,810	4,412	81,310	17,913	99,223	941,248	9.49	20.75	21.70
1978–9[1]	2,480	490	2,970	4,358	5,220	4,484	107,592	25,578	133,170	1,087,000	8.16	16.20	18.30
1979–0[1]	2,457	522	2,979		6,450	4,588	102,998	33,669	136,667	1,325,670	9.70		
1980–1													

[1] Preliminary. [2] F.O.B. mills, Houston, Texas (medium grain). [3] Houston, Texas (long grain).
Source: Economic Research Service, U.S.D.A.

Salient Statistics of Rice, Rough & Milled (Rough Equivalent) in the United States In Thousands of Cwt.

Year Beginning August	Supply				Distribution					Government Support Program					
					Domestic						Under Price Support				
	Stocks Aug. 1	Production	Imports[2]	Total Supply	Food[3]	Industry[4]	Seed	Total	Exports	Owned By CCC Aug. 1	Loans	Purchase Agree.	Total	Deliveries to CCC	Support Rate $ Cwt.
1967–8	8,511	89,379	7	97,897	25,003	5,434	3,235	33,672	56,881	140	16,352	2	16,354	39	4.55
1968–9	6,784	104,142	10	110,869	26,962	5,755	2,932	35,649	56,053	82	23,640	640	24,280	6,320	4.60
1969–0	16,211	91,904	221	107,269	23,527	7,064	2,510	33,101	56,854	6,087	22,671	1,841	24,512	2,993	4.72
1970–1	16,446	83,805	1,446	101,646	25,100	6,800	2,531	34,400	46,500	6,407	20,787	733	21,520	3,528	4.86
1971–2	18,634	85,768	1,100	105,500	25,500	7,400	2,500	35,400	56,900	9,329	31,235	107	31,342	1,214	5.07
1972–3	11,434	85,439	500	97,400	25,100	7,700	3,032	35,700	54,000	2,720	22,926	—	22,926	1	5.27
1973–4	5,139	92,765	200	98,100	26,100	8,100	3,609	37,800	49,700	148	19,146	—	19,146	—	6.07
1974–5	7,842	112,386	—	120,300	28,600	8,400	4,000	41,000	69,500	—	9,256	—	9,256	—	7.54
1975–6	7,057	128,437	—	135,500	27,700	9,100	3,500	40,300	56,500	—	21,477	1.781	23,258	19,187	8.52
1976–7	36,877	115,648	100	152,600	29,200	10,300	3,200	42,700	65,600	19,187	23,425	608	24,033	8	6.19
1977–8	40,500	99,223	100	139,800	23,500	9,900	4,300	37,700	72,800	18,610	19,557	—	19,557	—	6.19
1978–9[1]	27,400	133,170	100	160,600	32,600	11,100	4,300	48,000	76,960	10,772	27,117	—	27,117	—	6.40
1979–0[5]	31,600	136,667	—	168,300	34,200	11,900	4,400	50,500	83,000	8,143	25,000				6.79
1980–1[5]	34,800														

[1] Preliminary. [2] Consists mostly of broken rice. [3] Includes shipments to territories and military food use. [4] Primarily for beer-production. [5] Projected. *Source: Agricultural Marketing Service, U.S.D.A.*

World Exports of Rice (Milled Basis), by Country of Origin In Thousands of Metric Tons

Year	Australia	Brazil	Guyana	Burma	Comm. China	Egypt (U.A.R.)	Uruguay	Pakistan	Italy	U.S.S.R.	Nepal	Taiwan	Thailand	United States	World Total
1967	99	32	102	531	1,190	435		140	156			116	1,449	1,801	6,908
1968	97	142	96	352	886	570		80	186			68	1.038	1,847	6,320
1969	117	60	74	541	710	770		135	179			35	999	1,850	6,527
1970	111	95	60	719	885	654		130	347			5	1,062	1,740	7,558
1971	186	129	66	800	622	515		197	438			34	1,576	1,415	7,695
1972	154	102	54	244	1,976	298	62	789	238			16	849	1,733	7,547
1973	158	33	49	133	2,096	298	65	771	247	83		49	849	1,630	7,439
1974	145	57	52	206	1,982	136	73	478	461	131		5	1,046	1,702	7,908
1975	185	3	83	288	1,440	104	91	498	451	—		—	933	2,070	7,162
1976	218	76	72	636	1,446	191	115	945	396	130	15	0	1,870	2,045	9,055
1977	260	388	67	686	1,023	193	120	757	238	130	105	150	2,915	2,270	10,440
1978[1]	337		106	325	1,210	153	100	800	400	130	85	238	1,573	2,261	9,363
1979[2]	400		80	550	1,200	100	115	1,000	300	130	100	300	2,700	2,250	11,728
1980															

[1] Preliminary. [2] Estimate. *Source: Foreign Agricultural Service, U.S.D.A.*

U.S. Exports of Milled Rice[1] by Country of Destination In Thousands of Metric Tons[3]

Yr. Begin. August	Viet-nam	Rep. of So. Africa	Canada	Un. Kingd.	Rep. of Korea	Nige-ria	Indo-nesia	Italy	Bangla-desh	Liberia	Saudi Arabia	Switzer-land	Iraq	Iran	Total All Exports
1967–8	13,987	1,586	1,196		6,577		3,837	—		819	1,338				41,368
1968–9	4,188	1,452	1,347		10,965		7,089	—		721	1,432				40,116
1969–0	12,679	1,764	1,254		4,111		8,190	—		1,061	1,417				39,334
1970–1	5,001	1,790	1,163	*1970–*	9,166	*1970–*	6,231	—		895	1,098				33,577
1971–2[3]	146	82	62	*74*	495	*74*	354	—	75	37	82	13	—	19	1,807
1972–3	360	83	65	*Avg.*	471	*Avg.*	173	—	4	29	57	12	—	34	1,788
1973–4	301	86	81	*(40)*	121	*(2)*	60	—	—	28	94	14	9	42	1,608
1974–5	64	64	60	32	530	3	42	—	250	23	79	12	110	462	2,231
1975–6	—	82	71	30	129	12	—	46	245	24	117	14	81	174	1,538
1976–7	—	96	74	32	75	131	409	36	21	51	72	47	37	457	2,105
1977–8	—	71	74	12	—	172	469	164	83	41	170	30	90	344	2,267
1978–9[2]	—	104	77	48	39	184	260	137	3	41	234	52	148	348	2,431
1979–0															

[1] No adjustment of brown & parboiled rice has been made; treated as milled rice. [2] Preliminary. [3] Data prior to 1971–72 are in THOUSANDS OF CWT. *Source: Bureau of the Census, Dept. of Commerce*

Exports of Rice From the United States In Millions of Pounds[1] (Clean Basis)

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
1967–8	194.4	226.9	288.0	337.2	342.6	558.9	295.4	480.6	469.2	405.5	299.6	235.5	4,135
1968–9	169.1	342.5	209.4	335.8	361.2	144.3	262.7	244.7	492.4	408.3	628.8	371.6	3,971
1969–0	290.7	254.4	374.6	349.0	361.8	235.5	337.3	306.1	187.6	365.6	498.8	371.5	3,935
1970–1	231.4	189.0	438.1	446.8	220.5	284.0	198.7	259.5	314.6	268.5	365.4	144.3	3,361
1971–2	189.7	439.9	394.7	160.5	232.4	275.6	532.8	219.4	242.4	338.1	532.5	540.6	4,099
1972–3	360.4	241.7	313.3	443.6	407.0	339.8	300.1	478.4	423.5	271.4	159.1	204.3	3,943
1973–4	131.9	215.5	252.8	401.5	405.3	368.5	264.8	286.7	403.7	233.3	311.8	305.5	3,581
1974–5	174.4	329.0	349.8	331.9	442.0	544.9	564.4	556.2	463.9	437.0	555.4	247.7	4,996
1975–6	225.6	164.0	305.8	249.3	396.6	340.1	275.4	298.7	264.4	383.7	348.5	724.9	3,977
1976–7	396.5	319.6	308.2	405.8	574.0	233	313	487	263	529	381	498	4,709
1977–8	494	511	188	634	464	204	427	294	339	364	694	347	4,960
1978–9	325	545	467	371	596	361	416	484	498	531	334	434	5,362
1979–0	310	316	426	320	546	584	557						
1980–1													

[1] 162 pounds rough—100 pounds clean. *Source: Department of Commerce*

Avg. Price Received by Farmers for Rice[1] in the U.S. In Dollars Per 100 Pounds (CWT.)

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average[2]
1967–8	4.74	4.74	5.08	5.04	5.08	5.16	5.32	5.36	5.37	5.34	5.37	5.33	4.97
1968–9	5.06	4.92	5.03	5.09	4.92	4.72	4.84	4.80	4.78	4.90	4.80	4.63	5.00
1969–0	4.71	4.99	5.23	5.05	4.98	4.99	4.96	5.01	5.00	4.98	5.10	4.80	4.95
1970–1	5.16	5.18	5.26	5.19	5.09	5.31	5.44	5.36	5.33	5.30	5.20	5.33	5.17
1971–2	5.15	5.24	5.46	5.25	5.30	5.53	5.55	5.60	5.58	5.57	5.58	5.35	5.34
1972–3	5.34	6.37	7.05	7.42	7.64	7.84	8.14	8.26	8.51	8.56	8.74	10.80	6.73
1973–4	10.90	13.30	14.80	16.70	15.50	15.80	16.90	17.20	15.90	17.20	17.50	11.90	13.80
1974–5	10.20	10.90	11.30	11.60	10.90	10.80	11.30	11.10	11.00	11.10	11.20	10.00	11.20
1975–6	9.83	9.19	8.87	8.59	8.51	7.95	7.54	6.17	7.15	7.06	6.82	7.45	8.35
1976–7	6.65	6.56	6.48	6.46	6.57	6.79	6.87	6.81	6.95	7.30	7.24	6.87	7.02
1977–8	8.02	8.12	9.13	10.20	11.00	10.70	10.70	10.70	10.80	10.10	9.58	9.49	9.49
1978–9[3]	8.44	7.56	7.62	7.76	7.98	8.07	7.87	8.18	8.52	8.74	8.73	9.10	7.72
1979–0[3]	10.00	9.81	10.30	9.80	9.41	9.88	11.00	11.70	11.60				
1980–1													

[1] Rough rice. [2] Weighted average by sales. [3] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Rubber

Estimated world consumption of natural rubber increased 2 percent in 1979 to 3.79 million tonnes from 3.72 million in 1978, according to the International Rubber Study Group (IRSG). Synthetic rubber production rose nearly 5% in 1979 to 9.27 million tonnes from 8.86 million in 1978.

Estimated world consumption of natural rubber rose over 4 percent in 1979 to 3.88 million tonnes from 3.72 million in the previous year, while synthetic rubber consumption increased less than 3 percent to 9.0 million tonnes from 8.76 million in 1978 according to provisional data of the IRSG.

Estimated world stocks of natural rubber at the end of 1979 were estimated by the IRSG at 1.43 million tonnes, down 6 percent from the estimated 1.52 million tonnes on hand a year earlier, as natural rubber consumption exceeded production again in 1979. World synthetic rubber stocks at the end of 1979 were 14 percent higher than at the end of the previous year, as production again exceeded consumption.

Natural rubber prices rose sharply during 1979, advancing from about $1,202 per tonne, basis No. 1 Ribbed Smoked Sheets, New York in January to about $1,498 per tonne in December. Price strength was influenced by the continued shortfall in natural rubber production compared with consumption, increased international tension, talk of stockpile purchases, and inflationary considerations. Prices continued strong into early 1980. Escalating costs of crude oil and the diversion of some feedstocks for energy use resulted in rapidly increasing petrochemical prices and consequently in synthetic rubber costs in 1979. As a result, synthetic rubber prices in the U.S. went up 23 percent during 1979 despite sluggish end-product markets, and were expected to increase further in 1980 in response to additional crude oil price hikes.

The outlook for natural rubber consumption is enhanced by the increasing share of the U.S. passenger car tire market accounted for by radial tires. In 1979 radial tires accounted for 50 percent of U.S. tire output, up from 45 percent in 1978. Natural rubber properties are more compatible with radial construction than synthetic rubber.

The United States, which is the world's largest consumer of rubber, became a signatory to the International Natural Rubber Agreement on January 8, 1980. The main aim of the agreement is to stabilize prices and help ensure adequate supplies for consumers. The agreement was scheduled to go into effect on October 1, 1980. Membership funds contributed by member countries were to be used to establish an international buffer stock totaling 550,000 tonnes.

The U.S. stockpile goal for natural rubber was increased to about 850,000 long tons on May 2, 1980 from 513,134 tons, with only about 119,134 long tons reported in the strategic stockpile.

World Rubber Production[1] In Thousands of Metric Tons

	Natural											Synthetic				
Year	Sri Lanka (Ceylon)	India	Vietnam	Indonesia	Malaysia	Philippines	Thailand	Liberia	Brazil	Other Latin Amer.	World Total	Canada	W. Germany	United States	United Kingdom	World Total
1970	159.2	89.9	28.5	815.2	1,269	20.1	290.0	83.4	25.0	7.0	3.103	205.4	301.9	2,232	315.6	5,893
1971	141.4	98.9	34.5	819.3	1.319	21.3	318.8	74.2	24.2	8.0	3.085	197.4	306.4	2,277	285.4	6.215
1972	140.4	109.1	20.3	773.7	1,304	22.4	336.9	83.3	25.8	9.0	3.120	195.5	300.0	2,455	316.6	6,765
1973	154.7	123.2	20.6	885.8	1,542	25.9	390.0	85.5	23.4	10.0	3,505	229.8	392.9	2,607	364.4	7,758
1974	132.0	128.4	22.0	855.0	1,525	37.2	379.5	86.2	18.6	11.0	3,445	208.8	371.8	2,396	335.8	7,575
1975	148.8	136.0	20.0	822.5	1,459	51.5	355.0	82.8	19.3	12.0	3,315	173.3	315.9	1,990	260.8	6,855
1976	152.1	147.8	32.5	847.5	1,612	57.8	411.9	82.4	20.3	17.0	3,575	209.9	372.6	2,425	320.4	8,030
1977	146.2	151.6	35.0	835.0	1,613	60.0	430.9	80.0	22.6	18.0	3,605	237.9	414.3	2,521	329.2	8,470
1978[2]	155.7	133.0	40.0	902.5	1,607	63.0	467.0	78.5	23.7	19.0	3,715	248.3	407.0	2,605	293.7	8,855
1979[3]	155.9	144.8	46.8	912.5	1,604	63.0	520.0	71.0	25.3	19.0	3,770	279.8	408.0	2,676	280.8	9,310

[1] Including rubber in the form of latex. [2] Preliminary. [3] Estimate. *Source: Rubber Study Group*

World Consumption of Natural and Synthetic Rubber In Thousands of Metric Tons

	Natural									Synthetic					
Year	Australia	Brazil	Canada	France	W. Germany	Japan	Un. Kingdom	United States	World Total	Canada	France	W. Germany	Un. Kingdom	United States	World Total
1970	40.2	36.7	50.6	158.2	200.7	283.0	195.2	568.3	2,990	135.5	260.9	358.1	277.5	1,949	5,635
1971	40.5	41.8	52.0	159.2	198.2	295.0	184.8	587.1	3,093	158.3	283.5	369.2	274.8	2,127	6,185
1972	46.3	44.2	60.4	160.2	193.0	312.0	174.0	650.9	3,230	172.8	297.8	362.4	278.2	2,328	6,730
1973	52.1	51.2	60.4	162.3	205.6	335.0	186.5	712.0	3,403	186.2	304.7	442.6	330.6	2,440	7,575
1974	59.4	57.9	63.3	162.4	193.9	312.0	167.3	738.4	3,518	181.3	308.4	404.2	279.2	2,210	7,450
1975	49.9	58.7	72.3	156.2	197.1	285.2	170.5	666.0	3,368	179.3	277.7	359.9	266.3	1,964	7,028
1976	50.0	66.1	84.7	166.8	195.2	302.0	168.3	686.7	3,505	203.9	286.1	438.3	327.4	2,172	7,915
1977	41.4	71.4	90.4	163.6	176.5	320.0	172.4	802.2	3,710	207.1	294.8	431.2	321.0	2,472	8,420
1978[1]	41.1	72.5	89.1	163.2	184.9	355.0	139.2	761.4	3,715	203.9	296.2	429.5	313.4	2,492	8,760
1979[2]	46.5	75.1	98.8	168.0	186.5	374.9	138.5	746.1	3,875	233.5	293.8	434.4	290.0	2,451	8,960

[1] Preliminary. [2] Estimate. *Source: Rubber Study Group*

World Stocks[1] of Natural Rubber, January 1 In Thousands of Metric Tons

	In Producing Countries							In Consuming Countries (Commercial Stocks)								
Year	Brazil	Cambodia	Sri Lanka	Indonesia	Malaysia (Peninsular)	Singapore	Total	Australia	Canada	France	W. Germany	India	Japan	United Kingdom	United States	Total
1967	12.9	6.4	23.5	75.0	101.9	46.8	415.0	4.7	5.4	14.2	17.7	22.4	38.5	26.1	93.1	527.5
1968	10.9	7.5	28.4	75.0	133.8	54.4	450.0	6.2	4.3	15.9	16.7	29.9	38.6	24.0	113.5	487.5
1969	9.6	7.0	29.2	75.0	109.9	52.9	320.0	5.0	3.7	13.7	16.3	20.5	41.3	23.3	109.5	555.0
1970	8.1	6.8	33.3	75.0	101.1	44.0	310.0	5.5	4.2	25.7	15.0	34.6	54.2	26.7	108.2	695.0
1971	8.4	2.5	34.6	75.0	152.5	57.3	380.0	4.9	5.2	29.6	17.5	41.6	63.4	25.9	104.2	760.0
1972	11.6	2.5	33.1	75.0	163.9	55.1	385.0	4.4	6.6	26.5	15.7	47.5	84.3	29.8	135.5	765.0
1973	8.6	7.5	29.0	75.0	195.6	52.1	415.0	3.5	6.8	27.7	11.8	56.0	64.3	27.4	113.6	695.0
1974	9.7	6.8	46.5	75.0	188.6	68.6	450.0	5.3	6.8	28.9	11.1	54.5	95.1	28.5	106.0	765.0
1975	12.9	6.3	44.7	75.0	201.1	43.4	435.0	5.7	8.5	33.4	12.7	47.8	90.8	23.0	117.9	800.0
1976	12.0	5.3	26.0	75.0	230.5	59.2	475.0	4.0	6.8	23.8	12.5	54.0	104.6	24.2	116.0	785.0
1977	11.3	3.0	33.9	75.0	239.1	38.7	495.0	4.7	8.2	24.1	12.1	59.6	94.8	31.2	138.5	825.0
1978	13.6	2.5	38.8	75.0	214.8	33.7	470.0	5.0	11.7	23.0	12.4	57.4	79.3	28.7	123.1	790.0
1979[2]	19.1	2.5	47.4	75.0	245.5	35.8	505.0	2.7	8.3	20.0	13.7	42.9	90.7	29.0	96.1	710.0
1980[2]	19.4	2.0	58.5	75.0	201.7	55.6	450.0	4.2	7.9	15.7		54.6	67.8	26.6	124.6	635.0
1981																

[1] Exclusive of "Stock Afloat" and unreported gov't stockpiles. [2] Preliminary. [3] Estimate.
Source: Rubber Study Group (London)

Net Exports of Natural Rubber from Producing Areas In Thousands of Metric Tons

Year	Burma	Cambodia	Sri Lanka (Ceylon)	Indonesia	Malaysia (Peninsular)	Sabah	Sarawak	Thailand	Vietnam	Zaire	Liberia	Nigeria	Other Africa	Papua New Guinea	World Total
1967	6.9	49.1	135.6	633.1	938.0	24.1	28.2	211.1	32.2	30.2	62.3	47.9		5.7	2,325
1968	9.8	47.4	144.7	746.7	1,065	24.9	24.1	252.2	28.0	32.5	64.0	52.8	49.1	5.7	2.600
1969	10.0	47.7	141.6	833.4	1,223	29.4	39.2	276.4	19.5	35.7	66.9	56.8	54.5	6.0	2,883
1970	9.6	15.0	154.1	766.2	1,251	31.8	21.7	279.2	23.0	40.0	83.4	59.3	64.3	6.5	2,785
1971	11.9	.5	137.8	757.8	1,308	28.6	19.5	307.3	31.1	40.0	74.2	50.2	67.0	6.0	2,835
1972	10.0	9.3	138.3	733.9	1,285	26.3	19.9	324.4	21.8	40.0	83.3	41.2	66.8	5.9	2,810
1973	10.0	19.2	131.1	841.5	1,514	35.3	41.8	368.2	20.5	40.0	85.5	49.4	72.3	5.9	3,180
1974	10.0	26.4	127.6	794.7	1,467	31.6	32.6	365.2	23.0	26.6	86.2	60.0	59.3	5.6	3,110
1975	10.0	10.0	160.9	788.3	1,363	32.0	29.0	334.7	7.5	25.0	82.8	52.7	56.5	5.5	2,920
1976		21.0	136.9	811.5	1,504	35.8	40.3	373.0	34.0		80.7	32.5	60.0	4.6	3,165
1977		14.0	134.5	800.2	1,530	38.8	37.6	404.0	33.0		80.0	35.4	60.0	4.2	3,208
1978[1]		16.0	138.0	863.2	1,489	36.8	39.6	441.8	35.0		78.0	29.4	57.5	4.1	3.245
1979[2]		12.0	143.0	875.0	1,400	35.0	38.0	517.8	36.0		75.0	28.0	53.0	4.0	3.300
1980															

[1] Preliminary. [2] Estimate. *Source: Rubber Study Group* (London)

U.S. Imports of Natural Rubber (Includes Latex & Guayule) In Thousands of Long Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total[1]
1967	39.37	33.06	51.75	33.58	36.61	24.13	23.27	43.57	33.55	35.46	50.23	48.22	452.80
1968	46.88	42.06	39.49	42.17	42.72	36.73	51.26	46.06	63.31	36.24	43.69	49.58	540.17
1969	21.81	49.00	59.78	54.39	48.90	46.67	40.84	55.19	49.49	59.45	49.27	50.51	585.28
1970	59.0	44.1	56.8	45.7	42.1	41.6	37.8	33.7	46.6	46.7	46.9	48.9	549.9
1971	45.2	44.7	41.1	42.8	49.8	74.5	47.6	69.6	54.3	44.7	42.1	56.4	612.7
1972	57.9	51.7	64.0	47.6	49.8	36.4	38.7	50.7	39.3	54.7	55.3	56.0	602.2
1973	57.7	48.1	59.4	43.3	55.5	53.4	40.7	66.3	63.7	60.2	56.3	38.3	642.9
1974	53.2	59.1	63.4	50.2	65.3	53.2	73.5	55.0	68.3	35.1	45.2	59.8	681.3
1975	68.2	41.3	51.5	52.3	32.7	58.4	52.7	59.7	54.3	57.1	66.2	62.2	656.6
1976	66.1	55.6	72.1	69.4	46.8	65.7	58.4	40.3	67.5	50.0	52.3	68.8	712.9
1977[2]	70.2	55.6	82.3	72.2	50.0	71.2	72.9	49.3	76.3	73.2	37.4	82.0	792.4
1978[2]	46.7	45.7	71.8	83.4	76.0	54.4	47.8	71.0	77.1	54.9	46.1	71.5	746.2
1979[2]	72.8	64.2	72.8	89.9	55.0	82.0	56.2	58.3	58.9	46.1	43.6	47.9	747.7
1980[2]	76.8												

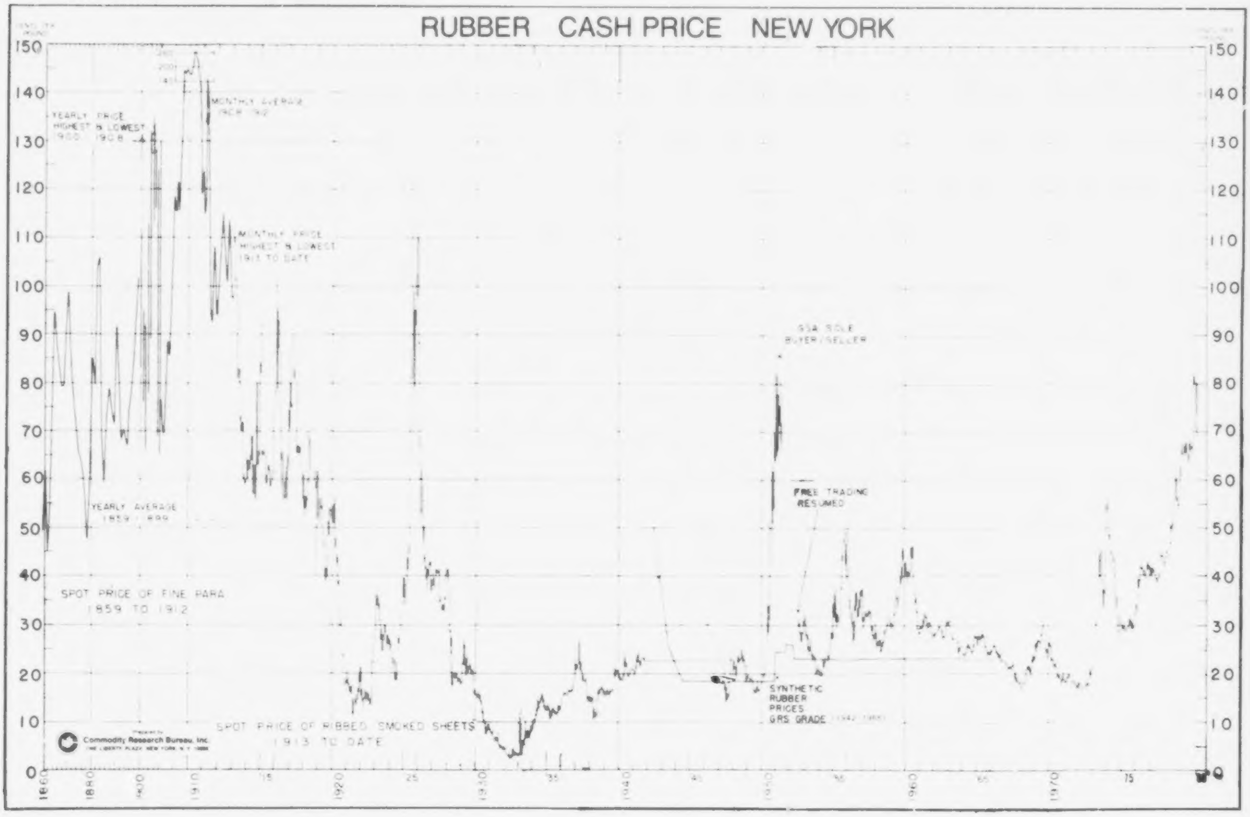
[1] Includes latex and guayule. [2] Preliminary. *Source: Department of Commerce*

RUBBER

Average Spot Crude Rubber Prices (Smoked Sheets[1]) in New York In Cents Per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	21.9	20.8	20.6	20.8	20.8	22.0	20.6	19.3	17.9	18.8	17.9	17.5	19.9
1968	17.3	16.4	17.6	17.9	18.6	21.3	20.8	21.0	20.1	21.5	22.8	22.8	19.8
1969	22.1	23.1	25.9	27.0	26.0	26.8	28.5	31.4	27.9	26.5	25.0	23.8	26.2
1970	25.5	25.1	22.3	22.1	21.8	21.6	20.0	19.5	19.1	18.3	18.4	19.3	21.8
1971	18.4	18.0	18.3	19.4	20.0	17.8	16.6	18.0	17.9	17.6	17.3	17.1	18.0
1972	18.0	17.8	17.0	16.5	16.9	17.3	17.5	17.5	18.0	19.4	20.5	21.0	18.1
1973	22.8	25.5	28.6	30.8	31.0	36.8	41.3	41.3	36.4	33.6	39.5	54.0	35.1
1974	53.8	53.8	48.8	42.8	43.8	42.0	34.3	34.8	32.0	32.0	27.5	31.5	39.8
1975	29.0	29.5	29.3	29.3	28.5	29.3	31.8	30.3	30.8	30.0	30.0	30.8	29.9
1976	33.0	35.8	37.0	38.8	40.5	44.0	[illegible]	40.5	39.6	42.0	43.0	40.0	39.5
1977	40.8	40.8	41.6	40.6	40.8	39.6	39.1	39.9	44.8	44.3	43.8	42.9	41.6
1978	43.0	44.6	45.5	43.9	45.0	49.0	49.4	52.0	54.4	54.3	58.1	55.8	49.6
1979	54.4	57.0	61.5	67.4	75.4	68.8	63.8	65.5	64.0	68.5	67.0	67.9	65.1
1980	73.0	86.5											

[1] No. 1, ribbed, plantation rubber. *Source: Bureau of Labor Statistics (07-11-02.01)*



Consumption of Natural Rubber in the United States In Thousands of Metric Tons[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	45.23	42.71	47.25	37.64	29.05	28.33	25.12	49.14	46.54	50.75	46.03	43.06	488.85
1968	49.75	48.20	50.04	48.53	50.23	46.83	41.42	46.83	49.70	54.57	48.97	46.79	581.86
1969	51.8	47.0	50.8	50.0	51.3	50.2	44.2	46.9	52.4	55.6	48.3	49.9	598.3
1970	53.0	51.0	52.9	49.8	37.8	45.8	44.4	45.0	48.3	46.7	41.5	43.2	559.3
1971	46.2	48.3	54.4	49.7	49.7	52.2	43.5	50.9	53.6	54.1	49.8	50.0	577.8
1972	55.3	52.7	59.1	51.9	56.1	53.2	40.9	55.3	54.1	58.5	52.6	52.9	640.6
1973	58.1	56.8	63.2	59.4	57.3	54.5	49.0	56.4	56.3	63.4	57.1	54.0	685.44
1974[1]	65.5	59.4	64.0	59.7	60.8	60.3	51.4	59.9	60.3	69.7	58.2	50.0	719.04
1975	61.2	53.9	52.9	56.3	58.5	58.4	[illegible]	54.8	61.3	62.0	47.9	53.4	669.97
1976	71.6	59.6	71.7	66.7	44.2	67.5	0.5	42.0	76.2	64.5	56.9	59.4	730.73
1977[2]	67.3	68.5	77.6	68.6	67.7	72.1	57.4	70.0	71.9	68.8	61.3	62.5	780.13
1978[2]	59.2	61.1	63.8	61.2	68.0	61.9	51.7	69.1	65.6	69.5	70.9	62.8	764.65
1979[2]	68.3	66.6	74.5	61.8	60.2	59.0	57.9	63.2	57.7	65.2	55.6	47.9	739.00
1980													

[1] Data prior to 1974 are in THOUSANDS OF LONG TONS. [2] Preliminary. *Source: Rubber Manufacturers' Association*

Stocks of Natural Rubber in the United States, Beginning of Month In Thousands of Metric Tons[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	91.59	95.03	98.07	104.98	107.68	116.76	116.84	126.95	125.83	118.43	110.25	109.43
1968	111.66	108.23	102.10	95.09	94.42	92.64	92.07	99.57	103.02	107.19	104.69	99.79
1969	107.76	98.00	92.15	104.71	107.43	108.52	107.35	104.91	104.45	107.41	104.49	103.06
1970	106.5	104.9	98.6	95.1	96.4	98.3	89.7	92.4	94.7	96.7	92.4	93.6
1971	102.6	91.4	92.9	102.7	98.6	105.9	104.9	122.0	125.6	131.4	124.9	126.4
1972	133.3	128.0	128.0	133.2	129.7	117.0	109.1	102.9	112.3	109.5	109.6	112.3
1973	116.7	122.8	116.8	120.5	117.5	122.2	115.9	113.7	117.2	128.7	122.4	122.5
1974[1]	122.4	124.0	120.1	129.5	130.3	131.0	132.6	155.4	155.2	143.0	129.9	124.5
1975	137.5	125.6	126.9	126.9	125.4	113.1	125.2	118.7	116.8	107.0	104.9	110.7
1976	105.4	99.8	158.2	127.0	140.9	104.7	102.3	106.8	92.6	104.9	—	—
1977[2]	141.8	119.9	127.0	123.8	118.3	119.1	123.9	126.7	136.1	133.5	137.7	129.4
1978[2]	127.7	123.3	116.4	117.1	115.0	122.8	123.4	125.4	126.1	127.7	133.5	124.0
1979[2]	125.6	121.4	115.6	116.1	136.6	130.2	137.7	146.0	144.4	135.6	135.0	124.5
1980[2]	132.1											

[1] Data prior to 1974 are in THOUSANDS OF LONG TONS. [2] Preliminary. *Source: Rubber Manufacturers' Association*

Stocks of Synthetic Rubber in the United States, Beginning of Month In Thousands of Metric Tons[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	348.69	352.28	347.55	345.57	353.99	355.02	355.75	383.04	355.30	349.60	335.43	347.00
1968	369.95	360.27	360.38	358.80	357.83	354.33	364.32	375.64	374.65	361.12	347.40	347.01
1969	370.0	377.5	386.0	395.3	398.7	404.4	410.6	420.9	428.4	423.8	417.1	424.4
1970	441.0	434.4	436.7	433.3	422.4	457.5	455.5	464.7	479.4	481.8	488.3	499.3
1971	514.8	526.3	517.1	497.6	491.2	501.8	487.8	505.3	483.9	468.3	462.1	480.3
1972	488.2	487.4	478.7	480.1	492.7	491.3	485.1	519.2	512.6	515.5	504.4	495.7
1973	495.7	471.9	473.1	454.8	461.6	469.4	469.9	499.3	501.6	511.2	500.9	494.7
1974[1]	521.0	508.9	507.4	489.4	478.1	503.1	505.6	567.6	583.5	569.1	560.3	585.7
1975	618.7	596.0	590.2	479.3	426.6	424.7	408.2	390.8	378.9	368.0	358.9	365.3
1976	369.9	405.1	406.4	386.7	416.4	453.9	472.7	499.1	513.6	475.5	—	—
1977[2]	458.1	441.4	431.8	407.6	412.9	409.4	402.2	430.4	430.3	422.3	424.5	424.0
1978[2]	426.8	431.0	427.9	434.5	446.9	411.4	433.1	456.5	445.1	437.7	425.3	419.9
1979[2]	424.1	407.1	400.0	393.6	398.9	391.5	401.3	411.3	402.2	402.8	389.9	402.1
1980[2]	402.9											

[1] Data prior to 1974 are in THOUSANDS OF LONG TONS. [2] Preliminary. *Source: Department of Commerce*

RUBBER

Production of Synthetic Rubber in the United States In Thousands of Metric Tons[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	164.60	150.11	164.60	154.97	138.45	132.09	137.92	155.68	167.73	178.74	181.88	185.10	1,912
1968	178.79	170.86	180.29	177.88	184.77	173.42	171.50	178.63	172.89	178.43	180.62	183.03	2,131
1969	181.63	174.97	193.14	186.22	191.42	183.57	179.34	182.24	190.23	200.93	187.86	198.64	2,250
1970	193.1	178.9	186.8	178.8	182.4	179.8	181.5	187.3	182.9	185.0	179.4	181.1	2,197
1971	183.6	166.5	181.8	184.1	196.5	182.1	187.5	187.0	187.0	193.8	194.9	196.1	2,241
1972	200.0	193.0	210.1	208.7	210.7	191.0	195.5	202.7	200.4	211.6	201.7	199.1	2,417
1973	216.1	208.0	216.6	223.1	221.2	199.9	210.0	220.4	210.7	227.5	212.6	219.4	2,585
1974[1]	226.1	212.0	229.5	224.1	225.7	212.5	206.0	211.3	208.2	205.1	185.9	154.8	2,498
1975	155.9	136.7	137.1	138.7	153.6	149.8	144.9	172.7	182.0	194.3	185.7	189.2	1,938
1976	191.5	193.1	210.5	204.2	191.4	176.3	156.7	160.7	192.7	209.5	206.3	210.9	2,304
1977[2]	204.0	193.0	213.0	204.8	211.5	201.8	191.3	198.8	201.7	205.6	195.4	196.6	2,418
1978[2]	198.2	192.7	210.3	214.9	211.2	194.4	196.0	205.7	207.4	212.3	212.1	219.1	2,475
1979[2]	207.9	200.8	232.1	216.7	223.3	210.7	202.9	202.8	210.0	213.8	206.0	207.6	2,528
1980													

[1] Data prior to 1974 are in THOUSANDS OF LONG TONS. [2] Preliminary. *Source: Department of Commerce*

Consumption of Synthetic Rubber in the United States In Thousands of Metric Tons[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	145.91	133.55	146.15	126.89	106.88	103.87	84.34	157.17	154.39	170.15	155.13	143.83	1,628
1968	163.0	154.3	162.1	155.9	162.7	153.4	135.8	154.3	158.8	179.1	161.9	154.8	1,896
1969	171.4	165.2	175.9	165.2	167.6	166.8	149.4	159.7	178.5	190.8	165.0	168.6	2,024
1970	175.8	170.8	181.5	173.1	131.8	158.8	152.9	154.9	160.4	163.9	144.4	149.6	1,918
1971	163.7	163.5	187.8	174.0	174.2	184.5	152.1	176.7	186.1	190.3	173.3	178.7	2,093
1972	182.2	186.8	201.4	189.7	197.0	197.7	152.1	191.9	195.3	210.2	194.0	193.5	2,292
1973	206.5	199.8	220.6	199.0	197.7	196.1	180.3	197.8	197.4	219.7	196.9	189.0	2,401
1974[1]	222.6	203.5	220.0	208.1	204.1	199.4	177.4	204.0	198.6	213.6	174.5	148.8	2,356
1975	178.4	162.4	143.3	167.5	165.7	170.1	154.3	171.5	183.2	201.2	157.7	167.0	2,022
1976	183.8	195.0	221.9	169.6	151.5	146.7	118.2	142.5	220.2	213.3	211.9	200.6	2,175
1977[2]	216.9	202.7	238.1	200.4	220.1	206.8	159.8	210.5	211.3	204.2	192.9	203.4	2,464
1978[2]	193.2	191.0	200.6	195.7	211.4	194.2	170.0	212.3	211.3	219.9	212.1	209.8	2,436
1979[2]	226.0	201.4	224.4	201.5	212.0	179.6	176.5	202.3	187.9	202.8	174.5	163.3	2,340
1980													

[1] Data prior to 1974 are in THOUSANDS OF LONG TONS. [2] Preliminary. *Source: Department of Commerce*

Exports of Synthetic Rubber from the United States In Thousands of Metric Tons[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	26.27	25.24	25.07	22.81	27.41	26.56	23.73	24.57	26.11	24.08	24.94	23.02	299.80
1968	24.35	23.99	26.15	24.86	27.39	21.23	23.67	30.71	37.76	13.86	18.28	18.77	291.03
1969	4.50	7.08	13.55	25.03	23.22	21.60	18.32	23.65	21.68	24.44	20.32	23.11	226.49
1970	23.4	23.7	22.3	26.1	25.3	27.3	23.2	23.3	22.1	24.1	24.5	26.2	290.1
1971	19.8	23.3	27.3	24.4	25.9	20.8	24.4	29.4	35.0	14.2	9.8	15.5	269.8
1972	26.8	26.7	20.0	16.8	20.0	18.1	20.1	22.1	16.5	24.0	21.9	24.0	257.1
1973	23.6	22.2	23.0	22.4	24.2	23.6	20.9	19.0	29.3	25.0	21.6	21.1	275.8
1974	22.4	20.6	27.8	27.5	26.0	21.1	21.1	25.8	21.1	18.0	19.1	16.8	267.1
1975[1]	14.52	17.05	15.06	17.17	15.69	16.78	16.24	18.36	19.28	20.64	21.15	22.57	214.50
1976	21.24	22.55	25.15	21.38	22.55	22.48	24.75	22.70	20.59	21.59	19.86	21.13	267.99
1977	19.11	20.97	24.34	21.48	22.06	20.78	24.72	14.86	26.14	14.59	13.80	17.13	239.98
1978	16.94	18.86	22.55	19.48	24.90	22.28	19.35	20.04	20.77	22.22	23.81	23.77	254.96
1979	23.62	22.29	27.74	29.43	28.74	34.61	34.51	39.37	34.90	38.61	36.53	34.76	385.10
1980	31.46	34.48											

[1] Data prior to 1975 are in THOUSANDS OF LONG TONS. *Source: Department of Commerce*

Production of Auto. Pneumatic Casings[2] & Motor Vehicle Registrations in the U.S. In Ths. of Casings

Year	Total Production of Tires													Regis.[1]
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	(Dec. 31)
1969	18,081	17,170	18,269	17,283	16,882	17,435	15,447	15,829	17,752	19,151	16,738	17,789	207,826	105.1
1970	18,174	17,522	17,606	17,216	12,642	15,658	15,466	14,657	15,885	15,938	14,560	15,079	190,403	108.3
1971	16,790	17,678	19,693	17,987	18,036	18,911	15,954	17,640	19,204	19,454	17,447	17,584	216,361	113.0
1972	19,064	19,132	20,584	19,005	19,725	20,270	14,765	18,608	19,352	20,999	18,721	19,387	229,611	118.8
1973	21,001	19,995	22,229	19,193	18,693	17,752	14,287	17,325	17,727	19,841	18,035	17,343	223,418	125.7
1974	20,366	19,349	20,497	18,334	18,379	17,830	14,484	17,454	17,426	19,737	15,245	12,294	211,390	130.0
1975	14,753	13,184	12,107	15,222	15,677	16,678	14,531	16,413	17,878	18,821	15,212	16,215	186,705	133.0
1976	17,598	18,200	20,552	16,085	9,856	10,453	8,025	8,954	18,096	21,113	18,827	20,194	187,953	138.5
1977[3]	20,638	20,094	22,640	20,087	19,512	20,734	15,050	19,495	19,321	18,926	17,716	17,425	231,638	143.8
1978[3]	18,290	18,319	18,987	18,828	19,148	18,946	15,108	19,245	19,155	20,497	18,299	18,869	223,406	149.1
1979[3]	20,352	19,592	21,807	18,609	18,544	15,603	14,904	16,911	15,985	17,775	14,480	12,340	206,687	
1980														

[1] Registrations, in millions, of all privately & publicly owned vehicles (except military). [2] Passenger cars, buses, trucks & motorcycle tires. [3] Preliminary. *Sources: Rubber Manufacturers' Association; Motor Vehicle Mfg. Association*

Stocks of Auto. Pneumatic Casings & Passenger[1] Car Registrations in the U.S. In Ths. of Casings

Year	Total Stocks of Tires												Regis.[1]
	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	(Dec. 31)
1969	42,128	45,124	48,469	50,365	48,131	47,433	45,135	44,317	44,686	43,386	42,331	44,898	86.9
1970	49,152	53,750	57,105	56,400	54,620	49,670	45,196	46,055	45,758	45,758	45,586	48,111	89.2
1971	50,175	52,894	56,462	57,656	54,436	53,454	50,821	50,397	50,401	49,396	50,083	51,015	92.8
1972	54,982	59,380	62,689	63,234	60,896	59,753	58,836	57,836	56,895	54,965	55,769	56,319	97.1
1973	60,255	63,646	66,419	66,708	62,872	60,485	56,834	52,341	50,392	47,775	45,636	46,472	102.0
1974	50,275	53,308	57,056	60,553	59,020	58,995	56,322	53,469	53,260	51,645	50,851	53,321	104.9
1975	55,242	58,758	60,970	57,721	54,082	52,037	49,803	46,990	47,405	45,711	46,002	47,569	106.7
1976	50,020	53,172	55,395	54,837	49,125	40,259	32,405	25,581	21,285	24,594	27,581	30,200	110.2
1977[2]	34,768	39,010	43,212	45,616	45,832	46,231	44,887	43,460	45,229	44,542	43,841	45,176	113.7
1978[2]	47,181	51,523	54,621	51,986	50,006	49,276	46,293	44,280	44,057	41,796	40,135	40,394	117.1
1979[2]	43,472	47,212	51,284	52,223	53,540	53,033	49,362	49,397	48,422	46,002	44,357	44,546	
1980[2]	44,873												
1981													

[1] Registrations in millions, of (Passenger cars only) privately and publicly owned vehicles (except military). [2] Preliminary. *Sources: Rubber Manufacturers' Association; Motor Vehicle Mfg. Association*

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Rye

The 1979 U.S. rye crop totaled 24.5 million bushels. This crop was 6 percent lower than the 1978 bumper crop but was 42 percent larger than the 1977 crop. Both yields and acres harvested for grain declined from the year before. Despite increased disappearance in 1978/79, rye stocks carried into the 1979/80 crop on June 1, 1979 were more than double the year earlier level. Total rye supplies for 1979/80 were the largest in six years.

Disappearance during the first seven months of the 1979/80 marketing year increased from the previous year. Increased feed usage occurred due to greater quality damage to the 1979 crop and attractive prices relative to wheat. Exports of rye in the June–December 1979 period, which have been negligible in recent years, were over 2 million bushels, the highest level since 1974. Finland has been the major customer.

Rye stocks, as of January 1, 1980, were 18 percent larger than on the same date in 1979 and were 106 percent greater than in 1978.

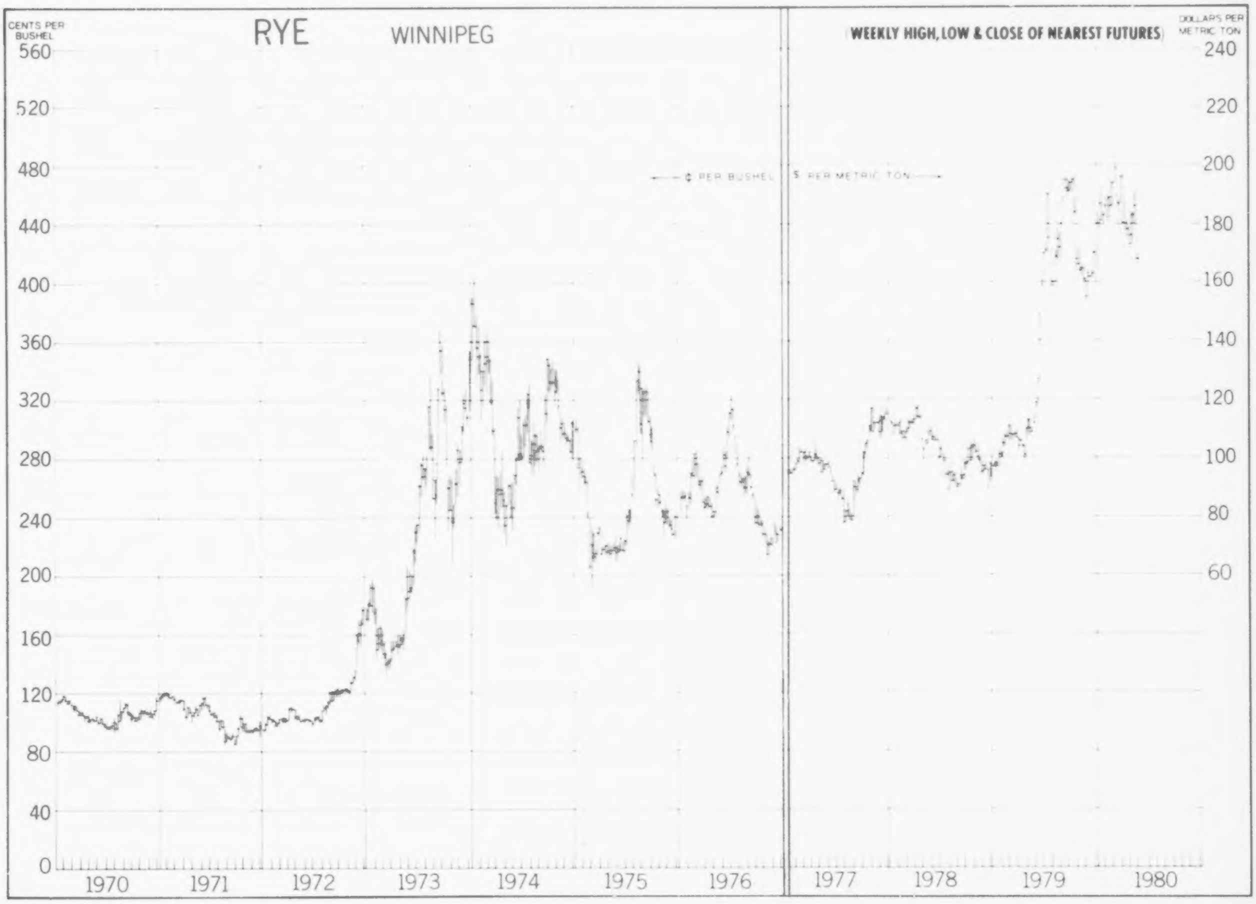
Acreage for the 1980 crop, seeded during fall 1979, declined by 14 percent from the previous year. Crop conditions were rated as fair due to a dry fall in northern areas. Planted acres declined 35 percent in the major rye grain producing States in the North Central area.

Government Price Support

Due to the embargo of grain sales to the Soviet Union, the loan rate for the 1979 crop was increased from $1.70 to $1.90 per bushel. The loan rate for the 1980 crop will also be $1.90 per bushel.

Futures Market

Rye futures are traded on the Winnipeg Commodity Exchange.



World Production of Rye In Thousands of Metric Tons

Crop Year	Argentina	Austria	Canada	Czechoslovakia	Denmark	France	Germany West	Germany East	Hungary	Netherlands	Poland	Spain	Turkey	U.S.S.R.	United States	World Total
1967–8	352	377	304	689	118	365	3,218	1,986	225	239	7,645	336	825	11,900	608	30,280
1968–9	360	413	331	769	127	351	3,247	1,936	238	239	8,438	364	780	12,700	583	31,879
1969–0	377	440	419	687	126	330	2,928	1,544	235	207	8,166	348	770	9,800	767	28,057
1970–1	181	363	570	454	134	306	2,701	1,483	155	172	5,433	256	680	10,800	936	25,596
1971–2	256	448	557	619	150	308	3,188	1,754	182	209	7,827	269	900	10,600	1,252	29,605
1972–3	500	402	344	633	155	350	2,954	1,947	171	151	8,149	263	755	9,600	741	28,212
1973–4	613	400	363	688	140	327	2,693	1,699	175	105	8,268	252	690	10,759	660	28,859
1974–5	306	415	480	671	168	315	2,559	1,949	175	78	7,881	254	560	15,218	483	32,629
1975–6	273	347	523	520	163	292	2,126	1,563	147	63	6,270	241	750	9,064	457	23,702
1976–7[1]	330	410	440	561	214	284	2,100	1,455	156	65	6,922	214	740	13,991	381	29,397
1977–8[2]	300	380	392	500	320	346	2,549	1,600	142	74	5,500	205	690	7,000	432	21,384
1978–9[2]																
1979–0																

[1] Preliminary. [2] Estimate. *Source: Foreign Agricultural Service, U.S.D.A.*

Salient Statistics of Rye in the United States

Year Begin June 1	Supply						Disappearance							Acreage		
	Stocks, June 1						Domestic Use									
	Privately Owned[2]	Gov't[3]	Total Stocks	Production	Imports	Total Supply	Food	Alc. Beverages	Seed	Feed[5]	Total	Exports	Total Disappearance	Planted	Harvested for Grain	Yield Per Harvested Acre
	Thousands of Bushels													Mil. Acres		Bushels
1967–8			20,374	23,949	759	45,082	5,704	4,755	5,143	6,968	22,570	2,993	25,563	3,660	1,063	22.5
1968–9			19,519	22,971	1,056	43,546	5,563	4,697	5,753	9,157	25,170	1,082	26,252	3,425	996	23.1
1969–70			17,294	30,204	472	47,970	5,392	4,310	6,054	9,529	25,285	805	26,090	3,959	1,291	23.4
1970–1			21,880	36,840	1,047	59,767	5,430	3,522	6,873	11,407	27,232	3,204	30,436	4,196	1,427	25.8
1971–2			29,331	49,223	241	78,795	5,195	3,005	5,262	16,276	29,738	2,177	31,915	4,842	1,751	28.1
1972–3			46,880	28,256	154	75,290	5,122	3,038	5,321	16,458	29,939	6,535	36,474	3,458	1,050	26.9
1973–4			38,816	24,677	1	63,494	6,250	2,547	4,980	8,029	21,806	27,513	49,319	3,380	955	25.8
1974–5	14,175	—	14,175	17,506	277	31,958	5,459	1,386	5,040	6,986	18,871	6,465	25,336	2,828	784	22.3
1975–6	6,622	—	6,622	15,958	944	23,524	4,172	2,060	4,200	7,600	18,003	1,117	19,120	2,829	729	21.9
1976–7	4,404	—	4,404	14,951	248	19,603	3,696	1,930	4,200	5,300	15,147	38	15,185	2,652	721	20.7
1977–8	4,418	—	4,418	17,312	127	21,857	3,648	1,900	4,800	7,400	17,740	24	17,700	2,652	704	24.6
1978–9[1]	4,137	—	4,137	26,160	100	30,397	3,700	2,400	4,900	9,400	20,400	300	20,700	2,985	995	26.3
1979–0[1]	9,671	—	9,671	24,549	100	34,	4,000	2,500	4,300	9,200	20,000	4,000	24,000	3,077	949	25.9
1980–1[4]														2,750		

[1] Preliminary. [2] Includes total loans. [3] Uncommitted, gov't only. [4] Forecast. [5] Residual; approximates total feed use.
Source: Economics Service, U.S.D.A.

Production of Rye in the United States In Thousands of Bushels

Year	Illinois	Indiana	Kansas	Michigan	Minnesota	Georgia	Nebraska	No. Dakota	Ohio	Oklahoma	Oregon	So. Dakota	Virginia	Texas	Wisconsin	U.S. Total
1967	588	456	405	912	2,025	1,240	1,320	4,117	275	559	288	6,235	490		400	23,949
1968	525	417	512	884	1,908	1,554	1,320	4,186	261	680	322	5,348	490		353	22,971
1969	576	525	1,121	1,120	2,268	1,692	2,565	5,175	403	980	390	7,128	442	722	280	30,204
1970	529	485	1,892	1,134	2,850	1,656	4,750	5,249	336	936	250	8,768	486	566	253	36,840
1971	529	432	2,640	850	5,404	1,955	5,880	9,750	396	780	260	12,320	475	378	288	49,223
1972	529	300	500	806	2,990	1,500	1,440	4,615	256	1,260	200	9,108	408	630	210	28,256
1973	462	299	735	675	3,150	1,425	1,300	3,039	232	1,333	168	7,480	322	648	189	24,677
1974	361	216	266	450	1,550	1,900	900	2,650	180	595	184	4,278	324	300	240	17,506
1975	374	234	168	456	2,225	1,350	855	2,975	210	570	192	2,346	230	760	315	15,958
1976	315	230	136	468	2,048	2,090	765	2,831	210	608	168	1,485	264	378	252	14,951
1977	330	260	180	456	2,436	1,995	1,050	2,080	248	646	125	3,480	350	400	364	17,312
1978	368	225	315	600	2,352	2,530	1,007	6,355	240	570	175	6,820	425	406	357	26,160
1979[1]	391	208	504	625	2,275	2,310	1,100	5,180	240	910	168	6,300	384	513	368	24,549
1980																

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

RYE

U.S. Rye Crop Production Reports and CCC Operations In Thousands of Bushels

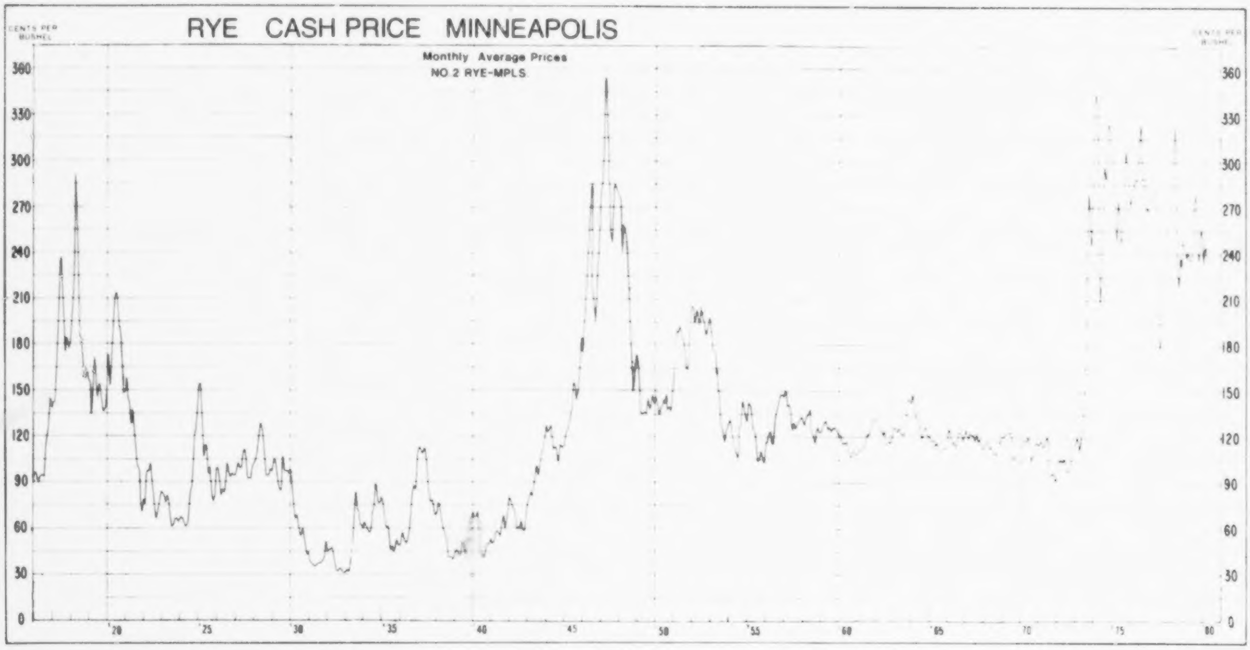
Year Begin. June 1	Official Crop Reports				National Average Support Rate		Placed Under Loan	Direct Purchases	Total	Delivered to CCC	Total Stocks Ending May 31		Privately Owned[3]	
	July 1	Aug. 1	Dec. 1	Final	$ Per Bushel	% of Parity					Ending Carryover[1]	CCC Uncommitted	Under Loan[4]	Other
1967–8	24,417	24,002	24,075	23,949	1.02	73	2,247	429	2,676	2,498	19,519	6,742	1,966	10,811
1968–9	24,032	24,124	23,220	22,971	1.02	72	4,411	173	4,584	2,932	17,294	10,359	1,904	5,031
1969–0	31,033	32,028	31,405	30,204	1.02	69	6,417	492	6,909	6,232	21,880	14,523	2,996	4,361
1970–1	35,745	36,186	38,552	36,840	1.02	68	10,880	1,288	12,168	11,246	29,331	16,889	4,250	8,192
1971–2	51,179	52,306	50,935	49,223	.89	57	18,958	1,238	20,196	11,500	46,880	28,073	12,715	6,092
1972–3	30,798	31,315	29,536	28,256	.89	56	6,695	195	6,890	1,500	38,816	—	8,788	30,028
1973–4	24,865	25,506	26,398	24,677	.89	51	443	2	445	—	14,175	—	80	14,095
1974–5	22,020	19,616	19,293	17,506	.89	46	196	—	196	—	6,622	—	30	6,592
1975–6	18,830	18,551	17,875	15,958	.89	39	87	—	87	—	4,515	—	47	4,468
1976–7[2]	16,957	17,382	16,667	14,951	1.20	48		—	100	—	4,404			
1977–8[2]	17,787	18,242	16,998	17,312	1.70	61		—	900	—	4,418			
1978–9[2]	28,518	28,567	26,160	26,160	1.70	56		—	2,900	—	4,137			
1979–0[2]	23,638	23,736	24,549		1.70						9,671			
1980–1														

[1] Old-crop rye under loan at end of crop year. [2] Preliminary. [3] Derived by subtracting CCC stocks & loans outstanding from ending carryover. [4] Includes previous crops under reseal. *Source: Economic Research Service; U.S.D.A.*

United States Rye Quarterly Supply and Disappearance In Millions of Bushels

Periods Begin. June 1	Supply				Disappearance: Domestic Use					Exports	Total Disappearance	Ending Stocks		
	Beginning Stocks	Production	Imports	Total Supply	Food	Alc. Beverages	Seed	Feed[2]	Total			Gov't. Owned	Privately Owned	Total Stocks
1975-6	6.6	16.0	.9	23.5	4.2	2.1	4.2	7.6	18.0	1.1	19.1	—	4.4	4.4
June–Sept.	6.6	16.0	.2	22.8	1.4	.4	2.1	3.5	7.5	.7	8.2	—	14.7	14.7
Oct.–Dec.	14.7	—	.2	14.9	1.1	.7	1.9	1.8	5.5	.3	5.8	—	9.1	9.1
Jan.–Mar.	9.1	—	[3]	9.1	1.1	.5	.2	1.6	3.3	[3]	3.3	—	5.8	5.8
Apr.–May	5.8	—	.5	6.2	.6	.5	—	.7	1.7	.1	1.8	—	4.4	4.4
1976–7	4.4	15.0	.2	19.6	3.7	1.9	4.2	5.3	15.1	[3]	15.2	—	4.4	4.4
June–Sept.	4.4	15.0	.2	19.6	1.2	.5	2.1	1.7	5.5	[3]	5.5	—	14.1	14.1
Oct.–Dec.	14.1	—	[3]	14.1	1.0	.5	1.9	1.8	5.2	[3]	5.2	—	8.9	8.9
Jan.–Mar.	8.9	—	[3]	8.9	.9	.6	.2	1.0	2.7	[3]	2.7	—	6.2	6.2
Apr.–May	6.2	—	—	6.2	.6	.4	—	.8	1.8	[3]	1.8	—	4.4	4.4
1977–8	4.4	17.3	.1	21.9	3.6	1.9	4.8	7.4	17.7	[3]	17.7	—	4.1	4.1
June–Sept.	4.4	17.3	—	21.8	1.2	.6	2.4	2.9	7.1	[3]	7.1	—	14.8	14.8
Oct.–Dec.	14.8	—	—	14.8	1.0	.5	2.2	1.8	5.5	[3]	5.5	—	9.3	9.3
Jan.–Mar.	9.3	—	—	9.3	.9	.5	.2	1.6	3.2	[3]	3.2	—	6.1	6.1
Apr.–May	6.1	—	[3]	6.1	.6	.3	—	1.1	2.0	[3]	2.0	—	4.1	4.1
1978–9	4.1	26.2	.1	30.4	3.7	2.4	4.9	9.4	20.4	.3	20.7	—	9.7	9.7
June–Sept.	4.1	26.2	.1	30.4	1.1	.5	2.5	2.3	6.4	[3]	6.4	—	24.0	24.0
Oct.–Dec.	24.0	—	—	24.0	1.1	.6	2.2	3.8	7.7	[3]	7.7	—	16.3	16.3
Jan.–Mar.	16.3	—	[3]	16.3	.9	.7	.2	1.8	3.7	[3]	3.7	—	12.6	12.6
Apr.–May	12.6	—	—	12.6	.6	.5	—	1.4	2.6	.3	2.9	—	9.7	9.7
1979–0[1]	9.7	24.5	.1	34.3	4.0	2.5	4.3	9.2	20.0	4.0	24.0			10.3
June–Sept.[1]	9.7	23.7	[3]	33.4	1.2	.5	2.2	3.0	7.0	.6	7.5	.2	25.7	25.9
Oct.–Dec.[1]	25.9	—	—	25.9	1.0	.7	1.8	2.7	8.2	1.5	7.7			19.0
Jan.–Mar.[1]	19.0	—	—	19.0										
Apr.–May														

[1] Preliminary. [2] Residual. [3] Less than 50,000 bushels. *Source: Economics Service, U.S.D.A.*



Average Price of Cash Rye No. 2 at Minneapolis In Cents per Bushel

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1967–8	120	115	117	116	112	114	116	118	116	114	112	110	115
1968–9	110	107	112	115	116	118	120	119	121	122	123	120	117
1969–0	115	104	106	110	112	114	113	114	117	115	117	117	113
1970–1	107	105	108	109	114	114	116	116	114	115	120	115	113
1971–2	100	92	95	96	91	99	103	105	104	104	106	99	100
1972–3	98	97	98	105	114	115	113	117	109	110	123	132	111
1973–4	160	217	279	265	246	286	344	338	316	221	209	257	262
1974–5	297	289	307	325	319	305	293	280	256	272	270	249	288
1975–6	258	304	303	301	286	273	282	281	289	288	296	324	284
1976–7	322	288	290	277	268	270	277	280	282	282	279	253	287
1977–8	194	179	206	228	246	256	269	282	294	305	322	293	253
1978–9	259	222	236	233	247	244	237	241	236	238	244	273	243
1979–0	279	247	235	257	249	235	245	235					

Source: Economic Research Service, U.S.D.A.

Rye Under Price Support Through the End of the Month (Cumulative Totals from Current Season's Crop) In Thousands of Bushels

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1967–8	0	311	858	1,169	1,309	1,496	1,940	2,059	2,195	2,246	2,248	2,248	2,676
1968–9	123	1,481	2,671	3,353	3,645	3,796	4,168	4,269	4,336	4,405	4,409	4,411	4,584
1969–0	—	1,422	3,486	4,469	4,718	4,920	5,903	6,085	6,293	6,415	6,418	6,419	6,417
1970–1	681	3,584	6,394	7,609	8,080	8,432	9,910	10,226	10,669	10,877	10,884	10,883	10.887
1971–2	323	5,828	11,156	13,332	14,357	15,035	17,175	17,779	18,442	18,930	18,949	18,955	18,960
1972–3	50	2,091	4,309	5,393	5,760	5,918	6,288	6,381	6,546	6,696	6,699	6,699	6,700
1973–4	44	253	331	367	407	427	442	442	442	442	442	442	450
1974–5	39	178	190	193	194	194	196	196	196	196	196	196	196
1975–6	8	59	59	63	64	85	87	87	87	87	87	87	87
1976–7	10	21	58	66	91	105	110	123	146	144	144	144	144
1977–8	74	250	647	719	769	800	858	887	917	914	913	913	913
1978–9	114	1,467	2,064	2,325	2,537	2,626	2,818	2,857	3,001	3,031	3,036	3,050	3,050
1979–0	5	338	765	1,106	1,313	1,397	1,592	1,653					

Source: U.S. Department of Agriculture

Safflower

Safflower Oil Supply & Distribution in the U.S. In Million Pounds

Crop Year Begin. Oct. 1	Supply			Distribution			Factory Consumption[2]							
	Stocks Oct. 1	Production	Total	Exports	Domestic Disapp	Total	Salad & Cooking Oils	Margarine	Shortening	Other Edible	Paint & Varnish	Other Inedible	Loss	Total
1967	60	139	199	—	124	124	42	42	3.2	10	10.7	7.0	3.7	97.7
1968	76	100	176	—	115	115	22	42	.9	5	11.7	10.3	—	82.8
1969	61	100	161	25	107	132	19	43	4.5	—	7.9	11.9	1.0	74.5
1970	19	120	149	20	100	120	12	22	1.2	4	8.3	7.1	.7	49.3
1971	29	140	169	40	90	130	11	19		3				
1972	39	150	189	40	118	158	22	20		2				
1973	31	100	131	25	98	123	29	32		1				
1974	8	115	123	25	75	100	17	16		10				
1975	25	100	125	25	75	100	22	7		—				
1976[1]	44	75	119	15	70	85	22	10		—				
1977[1]	25	95	120	25	74	99		8						
1978[1]	21	125	146	25	80	105		10						
1979[1]	41	100	141	25	75	100								
1980														

[1] Preliminary. [2] Data are for calendar year shown. *Sources: Bureau of Census; Economic Research Service, U.S.D.A.*

Safflower Oil Wholesale Price, Tanks, (Non-break) New York In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	16.0	16.0	16.0	16.0	16.0	14.6	13.9	13.6	13.3	13.3	13.3	13.6	14.6
1968	13.7	13.3	13.6	13.8	14.2	14.8	15.3	22.8	22.8	22.8	22.8	15.6	14.7
1969	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6
1970	15.6	15.6	16.3	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.3
1971	17.7	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.3
1972	18.4	18.4	18.4	18.4	18.4	18.4	18.7	19.6	19.6	19.6	19.6	19.6	18.9
1973	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
1974	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	55.0	55.0	55.0	28.4
1975	65.5	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	52.8	47.0	52.0	64.1
1976	52.0	52.0	52.0	52.0	52.0	52.0	52.0	47.0	41.0	41.0	41.0	41.0	46.2
1977	41.5	41.5	41.5	41.5	41.5	41.5	41.5	41.5	41.5	41.5	41.5	41.5	41.5
1978	41.0	41.0	41.0	41.0	41.0	41.5	41.5	41.0	41.0	41.0	41.0	41.0	41.2
1979	41.0	41.0	41.5	41.5	41.5	41.5	41.5	—	—	—	—	—	41.3
1980	46.5	46.5	46.5										

Source: Economic Research Service, U.S.D.A.

Safflower Meal Price at San Francisco (20%, Solvent) In Dollars per Short Ton

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	36.50	36.00	36.00	35.00	33.80	32.25	29.00	27.80	27.00	26.60	26.50	26.30	31.05
1968	27.20	28.50	28.00	27.80	29.00	29.70	30.00	30.00	30.00	31.80	32.00	33.00	29.75
1969	35.00	35.00	35.50	37.00	37.00	35.50	35.00	35.00	35.00	35.00	35.00	35.00	35.40
1970	35.62	38.75	40.00	40.00	40.00	40.00	40.10	41.75	42.00	42.50	43.00	44.00	40.65
1971	44.00	45.00	45.00	45.00	42.00	39.00	39.00	38.20	36.90	35.60	36.40	37.00	40.26
1972	37.25	36.20	36.40	36.10	36.00	36.00	36.00	36.00	36.25	39.10	44.40	52.50	38.52
1973	57.40	64.25	70.50	70.90	71.00	74.75	75.90	82.20	78.30	75.80	79.10	85.70	73.82
1974	88.75	90.90	92.00	93.00	N.A.	66.00	69.25	77.00	77.00	77.00	78.25	82.00	81.01
1975	82.00	79.50	77.00	76.40	70.60	70.00	68.00	66.00	68.40	65.00	65.00	65.00	71.07
1976	67.25	70.00	83.40	84.00	84.00	90.80	96.75	93.70	93.25	N.A.	N.A.	N.A.	85.36
1977	N.A.	87.50	90.40	92.00	92.00	84.00	68.25	56.60	50.00	45.00	55.00	62.00	72.42
1978	59.20	60.00	63.50	57.00	69.10	75.00	73.75	69.00	66.25	75.40	88.00	92.50	70.73
1979	93.00	91.00	85.00	82.75	82.00	80.00	78.00	75.00	68.75	69.80	74.00		
1980													

Source: Economic Research Service, U.S.D.A.

Salt

The amount of salt sold or used by domestic producers in 1979 increased an estimated 1 percent from the previous year. The largest consumer of salt was the chemical industry, which utilized about 58 percent of the salt sold or used by producers. Most of the salt consumption in the chemical sector was in the manufacture of chlorine and caustic soda, with chlorine production in 1979 up about 12 percent from 1978 output. Approximately 20 percent of the salt sold or used by producers went for highway deicing. The percentage of salt sold or used by type in 1979 was by source, about as follows: in brine, 53 percent; rock salt, 33 percent; vacuum-pan and open-pan evaporated salt, 9 percent; and solar evaporated salt, 5 percent. From a 1976 base, demand for salt is expected to increase at an annual rate of about 2 percent through 1985.

World Production of All Salt In Thousands of Short Tons

Year	Brazil	Canada	China	France	W. Germany	India	Italy	Japan	Netherlands	Poland	Spain	United Kingdom	United States	U.S.S.R.	World Total
1970	2,013	5,359	17,600	6,044	11,515	6,160	4,815	1,060	3,163	3,200	2,264	10,128	45,896	14,300	160,416
1971	1,628	5,542	18,200	6,057	9,834	5,986	5,042	1,043	3,491	3,262	2,181	10,344	44,077	13,200	159,107
1972	2,390	5,417	19,800	5,773	9,327	7,185	4,497	757	3,090	3,318	2,057	9,810	45,050	13,448	161,350
1973	2,044	5,565	22,000	7,023	11,245	7,566	5,370	1,119	3,355	3,393	2,421	9,390	43,940	13,450	170,483
1974	1,711	6,004	28,000	6,913	12,479	5,812	5,395	1,229	3,734	5,171	2,488	9,282	46,565	13,780	183,236
1975	2,365	5,330	33,000	6,104	10,269	5,353	4,863	1,115	2,965	3,885	3,453	8,410	41,057	15,100	178,207
1976	2,726	6,607	33,000	7,072	13,032	3,382	4,423	1,125	3,336	4,209	3,481	8,826	44,218	15,430	185,324
1977[1]	2,760	6,540	33,000	7,150	13,667	1,937	4,629	1,164	3,429	4,270	3,520	8,820	43,439	17,100	187,292
1978[2]		6,600	33,000	7,200	13,800	2,000	4,600			4,400		8,900	42,869	17,300	188,000
1979[2]		6,800	33,000	7,300	14,000	2,200	4,700			4,600		9,000	43,100	17,500	191,000

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

Salient Statistics of the Salt Industry in the United States In Thousands of Short Tons

	Sold or Used by Producers														
	Dry Salt														
	Evaporated (Mfg.)					Rock Salt									
	Bulk												Exports		
Year	Open Pans or Grainers	Vacuum Pans	Solar	Pressed Blocks	Total Evaporated	Bulk	Pressed Blocks	Total Rock Salt	Salt in Brine	Total Salt	Value[3] Million $	Imports For Consumption	Total	To Canada	Apparent Consumption
1969	332	3,055	1,907	369	5,663	13,314	83	13,397	25,185	44,245	287.7	3,302	716	298	46,831
1970	348	3,114	1,669	368	5,498	14,090	79	14,170	26,228	45,896	294.8	3,536	423	221	49,009
1971	335	3,289	1,937	367	5,928	13,613	87	13,700	24,449	44,077	303.7	3,855	670	398	47,262
1972	388	3,287	1,799	376	5,850	14,369	66	14,434	24,737	45,022	296.8	3,463	869	627	47,616
1973	525	2,984	1,924	451	5,884	12,275	72	12,347	25,680	43,910	306.1	3,207	609	561	46,508
1974	540	3,032	1,910	440	5,922	14,753	82	14,835	25,779	46,536	360.8	3,358	521	464	49,373
1975	526	2,801	1,583	436	5,345	14,200	84	14,283	21,401	41,030	368.1	3,215	1,332	1,315	42,913
1976	536	2,908	1,752	412	5,607	15,592	76	15,668	22,917	44,191	431.0	4,352	1,007	958	47,536
1977[1]	—3,481—		1,808	388	5,677	14,893	65	14,958	22,777	43,412	451.6	4,529	1,008	963	46,933
1978[2]										42,869		5,380	776		47,473
1979[2]										43,100		5,500	1,400		47,200

[1] Preliminary. [2] Estimate. [3] Values are f.o.b. mine or refinery & do not include cost of cooperage or containers.
Source: Bureau of Mines

Salt Sold or Used by Producers in the U.S. by Classes & Consumers or Uses In Thousands of Short Tons

Year	Chlorine	Soda Ash	Textile & Dyeing	Meat Packers, Tanners, Etc.[2]	Canning	Baking	U.S. Govt	Feed Dealers	Feed Mixers	Rubber	Oil	Paper & Pulp	Metals	Water Softener Mfg.[3]	Grocery Stores	Flour Proc.	Highway Use
1968	16,731	6,974	244	694	246	117		1,230	491	125	192	321	268	813	1,066		5,751
1969	18,937	6,659	210	618	213	106		1,180	534	155	180	341	210	799	1,081		6,909
1970	21,245	6,445	197	636	222	116		1,379	546	206	214	380	260	704	936		7,807
1971	19,621	6,358	193	653	241	116		1,355	586	172	164	279	182	680	1,236		7,905
1972	20,726	5,791	207	619	228	117		1,386	577	173	202	201	227	698	1,258		9,255
1973	22,598	4,776	201	577	238	122	102	1,370	713	166	215	209	228	687	1,292	85	6,079
1974	23,080	4,563	205	591	241	118	90	1,512	471	157	242	165	252	835	1,252	85	7,757
1975	18,952	4,492	180	579	259	125	119	1,310	552	127	261	172	265	586	991	101	7,680
1976	20,947	4,061	204	578	257	126	74	1,332	593	108	312	213	342	580	998	98	8,930
1977[1]	21,522	2,620	196	569	255	112	72	1,269	556	125	361	222	351	650	1,043	95	8,678
1978																	

[1] Preliminary. [2] Also casing mfg. [3] Also service companies. *Source: Bureau of Mines*

Sheep and Lambs

The U.S. inventory of sheep and lambs as of January 1, 1980 was estimated by the USDA at 12.5 million head, an increase of 2 percent from 1979. This was the first yearly increase since 1960.

As the sheep and lamb inventory dwindled, lamb and mutton production declined, and since 1971, prices for lambs increased. In 1979, slaughter lamb prices averaged a record $67.13 per cwt., 7 percent over 1978. Slaughter prices are expected to average in the mid $70's in 1980. Higher slaughter prices as well as higher prices for wool reversed the financial picture for sheep farmers and further herd increases were expected. This forecast was reflected in decreased slaughter as a percent of the January 1, 1980 inventory. For 1979, commercial sheep and lamb slaughter was equivalent to 41.1 percent of the January 1, 1980 inventory. This compares with a 43.5 percent figure in 1978 and the 1961–1977 average of over 50 percent.

Overall, slaughter was down 7 percent in 1979 from 1978 but slightly higher average dressed weight kept production from declining as much.

Ewe lambs on farms January 1, 1980 were up 7 percent from 1979 and ewes one year and older were up 2 percent over the same period. This further suggests that the yearly increase in sheep and lamb numbers observed in 1979 would continue in 1980.

World Sheep Numbers in Specified Countries In Millions of Head

Year	Argentina	Australia	Brazil	Peru	Iran	New Zealand	Spain[2]	Turkey	United Kingdom	United States	South Africa	Uruguay	U.S.S.R.	China[4]	World[5]
1967	49.0	164.2	22.2	*(14.5)*	31.0	60.0	18.7	34.7	21.1	23.9	41.8	21.4	135.5	*Avg.*	1,021
1968	46.0	166.9	23.1	15.1	33.0	60.5	18.6	35.9	20.4	22.1	52.2	21.5	138.5	*(68.2)*	1,030
1969	44.3	174.6	24.6	15.0	34.0	59.9	19.0	36.6	19.7	21.4	40.4	19.9	140.6	70.3	1,062
1970	42.5	180.1	25.7	17.1	32.0	60.3	18.7	36.4	19.2	20.4	34.1	19.8	130.7	70.6	1,040
1971	39.0	177.8	25.0	16.9	32.0	58.9	18.4	36.5	18.5	19.7	31.6	18.5	138.1	71.0	1,038
1972	40.0	162.9	25.5	12.5	32.0	60.9	17.9	36.8	18.7	18.7	30.2	16.3	139.9	71.3	1,022
1973	41.0	140.0	26.0	13.0	34.0	56.7	17.2	38.8	19.6	17.7	33.3	17.0	139.1	71.6	1,009
1974	41.0	145.2	26.5	13.5	35.0	55.9	16.3	40.1	20.2	16.4	33.6	15.1	142.6	71.9	1,022
1975	38.5	151.7	25.0	15.3	36.5	55.3	16.3	40.5	20.2	14.5	31.6	14.9	145.3		
1976	35.0	148.6	17.3	15.0	33.5	56.4	15.7	41.4	19.5	13.3	31.8	15.7	141.4		718
1977	35.2	135.4	17.2	14.5	33.0	59.1	14.5	41.5	19.9	12.8	32.6	16.6	139.8		707
1978	35.5	131.4	17.2	14.0	33.0	62.2	14.5	42.7	20.5	12.3	32.7	18.9	140.9		712
1979[1]	35.4	134.2	18.0	14.0	32.5	62.9	14.5	43.9	21.7	12.2	32.6	20.7	142.6		724
1980[3]	35.3	135.2	18.5	14.0	32.0	64.0	14.6	44.5	23.5	12.5	32.3	23.3	143.7		732
1981															

[1] Preliminary. [2] One year old & older. [3] Estimate. [4] Mainland. [5] Total of selected countries from 1976 to date.
Source: Foreign Agricultural Service, U.S.D.A.

Salient Statistics of Sheep & Lambs in the United States

Year	On Hand Jan. 1	Lambs Saved	In Shipments	Marketings[2]	Slaughter Farm	Slaughter Total[4]	Production	Marketings[2]	Value of Production	Cash Receipts[3]	Value of Home Consumption	Gross Income	Farm Value (1/1) All Sheep
	Mil. Head		Ths. Head				Mil. Lbs.		Millions of Dollars				
1967	24.0	15.0	4,030	16,904	245	13,036	1,154	1,603	231.0	301.7	4.2	305.9	473.2
1968	22.2	14.4	4,035	15,746	237	12,121	1,166	1,487	256.6	315.2	4.6	319.7	427.2
1969	21.4	13.7	4,119	15,155	233	10,924	1,065	1,447	266.9	343.4	5.6	349.0	470.7
1970	20.4	13.5	4,032	14,823	249	10,801	1,099	1,438	260.4	333.7	5.7	339.4	512.7
1971	19.7	13.0	4,004	14,829	236	10,965	1,071	1,432	250.2	323.0	5.4	328.4	464.5
1972	18.7	12.6	3,976	14,553	224	10,525	1,004	1,396	271.4	353.8	5.7	359.5	427.7
1973	17.7	11.5	3,275	13,077	202	9,799	896	1,277	293.7	389.6	6.9	396.5	472.7
1974	16.4	10.5	2,629	12,060	217	9,064	807	1,185	272.0	368.7	7.9	376.6	535.9
1975	14.5	9.9	2,343	10,768	212	8,047	781	1,059	303.4	385.2	8.5	393.7	442.5
1976	13.3	8.9	2,466	9,516	197	6,911	733		314.9	391.7	9.1	400.7	496.3
1977	12.8	8.6	2,173	8,909	198	6,555	704		321.1	390.5	9.9	400.4	541.3
1978[1]	12.3	8.0	2,147	8,059	174	5,543	699		390.3	461.4	11.2	472.7	636.1
1979[1]	12.2	8.1				5,187							875.9
1980[1]	12.5												974.1

[1] Preliminary. [2] Excludes interfarm sales. [3] Includes receipts from marketings & from sales of farm slaughter meats. [4] Includes all commercial & farm. *Source: Crop Reporting Board, U.S.D.A.*

Sheep and Lambs on Farms in the United States, January 1 In Thousands of Head

Year	All Sheep and Lambs[2]														
	Minnesota	California	Colorado	Idaho	Missouri	Montana	New Mexico	Ohio	South Dakota	Texas	Utah	Wyoming	Iowa	Total[2]	Total[1] Stock
1967	657	1,570	1,514	884	362	1,351	955	778	1,421	4,802	1,100	1,912	1,030	23,953	20,661
1968	591	1,521	1,364	844	333	1,275	873	767	1,356	4,228	1,079	1,847	973	22,223	19,105
1969	576	1,356	1,337	852	306	1,225	840	744	1,240	4,029	1,053	1,860	942	21,350	18,332
1970	554	1,317	1,263	785	288	1,180	834	728	1,155	3,708	1,053	1,853	869	20,423	17,411
1971	504	1,264	1,274	828	251	1,067	742	687	1,201	3,789	1,009	1,829	765	19,731	16,946
1972	467	1,113	1,220	728	230	1,000	714	672	1,181	3,524	976	1,735	735	18,739	15,835
1973	445	1,071	1,204	707	215	955	743	623	1,161	3,214	905	1,678	660	17,641	14,852
1974	415	1,132	1,140	684	224	794	672	582	976	3,090	772	1,505	531	16,310	13,744
1975	390	1,070	990	595	194	770	575	517	792	2,688	697	1,350	460	14,515	12,436
1976	315	1,052	920	536	168	635	590	500	686	2,600	590	1,265	385	13,311	11,427
1977	275	1,113	830	503	134	570	560	445	659	2,520	580	1,206	388	12,766	11,035
1978	255	1,115	810	536	131	530	571	370	704	2,460	491	1,115	370	12,348	10,725
1979	255	1,150	795	466	126	475	604	350	740	2,415	486	1,080	380	12,220	10,641
1980[3]	264	1,175	870	468	123	494	660	320	783	2,400	507	1,050	408	12,513	10,891
1981															

[1] Stock sheep & lambs; does not include sheep & lambs on feed for market. [2] Includes sheep & lambs on feed for market and stock sheep & lambs. [3] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Average Wholesale Price of Lambs at Omaha In Dollars Per 100 Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	22.25	20.00	21.38	23.50	28.00	26.75	25.88	23.75	23.00	23.25	23.00	22.50	23.60
1968	23.88	26.75	26.62	26.88	29.50	28.25	26.88	25.62	26.50	26.50	26.25	25.38	26.58
1969	27.25	27.38	28.25	29.25	30.88	30.38	29.25	28.62	27.75	28.38	27.50	27.50	28.53
1970	28.88	28.75	28.75	26.00	29.00	29.50	28.38	27.12	26.75	26.75	25.38	23.88	27.43
1971	24.00	25.12	26.88	30.25	31.12	31.25	28.88	27.75	27.50	25.88	24.75	25.75	27.43
1972	27.88	28.38	29.38	31.00	33.75	34.00	32.88	31.25	30.00	26.75	27.00	29.25	30.13
1973	33.62	39.25	40.75	34.25	36.25	38.00	39.25	41.50	33.38	31.75	34.75	37.50	36.69
1974	38.38	40.00	37.50	39.50	47.25	46.25	41.25	39.00	36.12	35.88	37.50	38.50	39.76
1975	37.50	40.50	43.00	47.88	50.75	46.12	45.00	41.00	44.12	44.00	45.00	48.13	44.42
1976	49.33	47.75	53.50	60.75	63.88	50.50	45.75	38.88	40.00	39.75	39.00	45.00	47.84
1977	49.50	50.25	51.50	56.75	56.75	53.00	41.25	50.75	55.75	56.88	50.00	58.50	53.38
1978	64.00	67.50	69.38	62.75	71.00	59.50	60.00	59.25	62.50	60.00	59.50	64.00	63.49
1979	73.75	71.25	61.25	70.50	70.75	65.00	61.52	60.62	67.01	65.91	65.00	67.75	66.69
1980	66.00	63.00	61.38										
1981													

Source: Economic Research Service, U.S.D.A.

Federally Inspected Slaughter of Sheep & Lambs in the United States In Thousands of Head

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	1,067	992	1,076	872	890	904	902	1,001	1,037	1,007	899	869	11,516
1968	1,050	840	796	865	920	856	928	930	973	1,063	835	832	10,888
1969	1,007	769	815	829	835	810	822	797	915	913	730	798	10,070
1970	855	742	859	903	795	841	829	789	897	917	735	847	10,009
1971	903	806	920	899	772	827	815	812	919	919	818	846	10,256
1972	847	801	903	786	803	807	737	840	866	937	828	751	9,905
1973	835	700	710	690	858	727	807	844	789	915	747	612	9,234
1974	749	612	772	782	670	581	713	777	842	851	612	595	8,556
1975	663	570	648	627	616	614	635	621	758	701	515	584	7,552
1976	582	513	570	561	429	502	525	563	622	556	517	534	6,474
1977	498	461	579	539	474	550	468	553	568	525	477	441	6,133
1978	425	390	487	430	451	441	406	438	435	457	413	396	5,169
1979	391	354	431	425	421	371	384	415	410	455	386	389	4,832
1980	448	419											
1981													

Source: Economic Research Service, U.S.D.A.

SHEEP AND LAMBS

Cold Storage Holdings of Lamb and Mutton, on 1st of Month In Thousands of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	17,210	15,333	15,317	15,475	15,556	16,717	14,620	12,841	10,905	11,444	13,067	14,526
1968	15,308	14,940	12,883	12,843	12,459	11.738	12.426	12,191	10,534	11,855	12,919	14,756
1969	14,139	10,417	9,479	12,201	16,906	15,758	12,946	12.456	15,215	16,022	17,037	17,343
1970	16,134	17,074	18,064	21,794	20,919	18,808	20,032	23,093	22,834	20,738	21,028	19,653
1971	19,336	20,526	19,653	20,403	20,221	22,506	22,848	21,292	19,391	20,719	20,059	18,626
1972	19,260	16,355	12,836	12,238	15,205	19,916	19,277	21,272	21,220	19,171	18,226	17,200
1973	15,704	14,258	11,847	10,920	13,210	15,644	16,004	14,451	12,739	13,083	15,517	14,691
1974	15,034	12,465	13,018	13,749	14,149	16,820	15,909	15,977	15,333	14,198	14,894	14,169
1975	13,690	12,154	11,221	9,254	9,963	8,819	7,388	9,089	10,107	10,749	10,765	11,543
1976	11,785	10,808	11,123	9,244	9,626	10,935	12,261	14,461	15,152	16,958	15,678	16,552
1977	14.535	14,131	13,884	11,813	12,771	14,583	14,381	13.848	13,567	11,630	10,097	9,356
1978	10,096	9,261	8,628	7,947	9,176	10,149	10,011	11.891	11,259	11,323	12,200	11,804
1979[1]	11,716	10,965	10,826	12,022	12,072	12,950	11,113	11,904	11,733	10,977	11,697	11,071
1980[1]	10,751	10,410	9.463	7,888	8,168							
1981												

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Average Price Received by Farmers for Sheep in the U.S. In Dollars per 100 Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
1967	6.96	6.86	6.80	6.48	6.29	6.01	6.22	6.10	6.11	6.07	6.27	6.44	6.35
1968	6.26	6.55	6.86	6.93	6.62	6.50	6.37	6.25	6.49	6.60	6.82	6.89	6.60
1969	7.18	7.63	8.24	8.73	8.34	8.07	8.24	8.53	8.39	8.35	8.15	9.05	8.24
1970	7.95	8.22	8.45	8.11	8.07	8.04	7.99	7.43	7.16	7.09	6.97	6.67	7.68
1971	6.90	7.03	7.34	7.08	6.87	6.50	6.23	6.78	6.39	6.05	6.13	6.22	6.63
1972	6.17	6.69	7.12	6.74	7.08	6.92	7.08	7.32	7.33	7.31	7.78	8.35	7.16
1973	9.36	10.80	12.10	12.10	11.40	12.00	12.40	15.70	13.50	13.30	13.00	14.20	12.70
1974	14.70	15.80	15.10	13.60	12.20	10.60	10.50	10.90	9.80	8.20	8.10	8.90	11.30
1975	9.85	10.30	10.60	11.70	11.60	11.30	11.80	10.80	11.30	10.80	10.80	11.80	11.20
1976	12.60	12.80	13.90	15.30	14.70	12.80	13.40	12.90	12.90	11.90	11.50	13.00	13.20
1977	13.80	13.90	15.40	14.40	13.00	12.00	12.30	12.40	13.40	13.20	14.10	14.60	13.40
1978	16.50	18.40	19.70	19.50	19.20	19.30	19.40	20.80	24.40	24.90	24.70	25.50	21.70
1979[2]	27.80	28.50	31.00	31.00	26.60	24.80	25.80	26.20	26.10	25.10	25.50	24.70	26.83
1980[2]	25.30	27.80	25.80	26.00									
1981													

[1] Weighted average by quantities sold. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Average Price Received by Farmers for Lambs in the U.S. In Dollars per 100 Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
1967	21.90	20.20	20.60	21.00	24.60	24.30	23.40	22.70	21.80	21.80	21.80	21.90	22.20
1968	22.20	23.30	24.70	25.60	25.80	25.40	25.00	23.90	24.20	24.40	24.70	24.20	24.50
1969	25.20	26.70	27.40	28.00	28.00	27.70	28.00	27.30	26.90	27.60	27.30	27.20	27.30
1970	28.10	27.90	27.50	26.30	26.80	27.20	27.00	26.70	26.20	26.10	25.20	23.40	26.50
1971	23.10	23.90	25.50	26.70	27.10	28.10	27.10	27.40	25.90	25.40	25.20	25.40	25.90
1972	26.90	28.20	28.70	28.60	30.40	30.70	31.40	30.20	29.10	28.20	27.60	28.70	29.10
1973	32.60	35.30	39.20	35.10	33.60	36.20	35.40	41.80	33.10	32.50	33.80	35.40	35.10
1974	39.30	39.20	36.00	37.40	41.20	42.70	37.90	37.50	33.20	33.20	35.20	36.10	37.00
1975	36.80	37.90	39.80	43.00	45.70	44.80	43.10	39.90	40.50	42.60	44.20	46.30	42.10
1976	47.90	47.20	50.20	54.90	60.10	51.10	46.80	41.50	41.80	42.60	41.90	44.70	46.90
1977	48.30	49.60	49.10	50.80	55.00	50.90	50.60	49.10	51.30	52.60	52.40	56.90	51.30
1978	60.70	63.20	67.10	63.90	66.50	61.80	58.80	58.50	63.70	62.50	61.40	65.70	62.70
1979[2]	73.10	71.80	64.20	70.40	70.10	67.00	65.00	61.10	67.00	65.40	64.70	66.30	67.13
1980[2]	66.50	63.30	67.30	63.40									
1981													

[1] Weighted average by quantities sold. [2] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Silk

Salient Statistics of Silk in the United States

Year	World Production (Raw) Million Lbs.	U.S. Unmanufactured[1] Imports[2] (By Country of Origin) — Thousands of Pounds										U.S. Silk Imports[2] — Mil. Lbs.		Mill Consumption	
		Total Imports	Brazil	United Kingdom	France	India	Italy	Japan	Switzerland	China	Korea	Raw	Waste	Total Mil. Pounds	Per Capita Pounds
1967	75	2,800	58	—	—	—	1,284	350	—	—	1,086	2.5	.3	2.8	.10
1968	82	3,978	54	—	—	—	1,735	1,312	—	—	848	2.2	1.8	4.0	.10
1969	86	3,385	135	66	—	—	1,265	1,124	—	—	761	1.9	1.5	3.3	.10
1970	90	1,846	141	2	—	—	911	416	—	—	355	.8	.9	1.8	.10
1971	90	1,702	38	—	—	—	345	1,154	—	—	74	.3	1.4	1.7	.10
1972	93	2,139	76	—	—	—	227	1,339	—	—	106	.6	1.6	2.1	—
1973	95	3,342	79	13	—	—	472	2,197	—	—	15	.6	2.8	2.8	—
1974	99	2,593	145	0	—	—	397	1,476	—	—	107	.4	2.2	2.6	—
1975	104	968	176	1	—	—	0	386	—	353	0	.6	.4	1.0	—
1976	106	2,653	247	1	—	—	98	1,727	—	457	—	.7	1.9	2.8	—
1977	108	1,621	106	0	—	—	0	1,230	—	268	0	.4	1.2	1.6	—
1978[3]	110	1,970	182	0	—	—	1	918	—	607	119	.7	1.3	2.0	—
1979[4]														1.5	—

[1] In skeins, wild or tussah, cocoons, and waste. [2] Imports for consumption. [3] Preliminary. [4] Estimate.
Source: Department of Commerce; Textile Organon

Average Wholesale Prices of Raw Silk[1] in the United States In Dollars per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1959	3.61	3.88	4.03	4.11	4.11	4.13	4.09	4.12	4.09	4.14	4.32	4.51	4.10
1960	4.56	4.43	4.27	4.34	4.37	4.52	4.59	4.79	4.92	4.86	4.75	4.78	4.60
1961	5.14	5.03	5.12	5.09	5.20	5.18	5.21	5.44	5.38	5.25	5.24	5.08	5.20
1962	5.08	5.22	5.42	5.73	5.98	6.22	6.20	6.36	5.98	6.42	6.49	7.22	6.03
1963	7.63	7.67[2]	7.86	7.87	7.48	7.70	6.80	6.93	6.48	6.16	6.42	6.25	7.10
1964	5.98	5.68	5.65	5.63	5.63	5.73	5.75	5.73	5.73	5.70	5.78	5.76	5.73
1965	6.03	6.88	6.73	7.01	7.01	6.78	6.68	6.70	6.85	7.15	7.25	7.30	6.86
1966	7.53	8.05	7.75	7.83	7.24	7.43	8.01	8.50	8.75	8.83	8.82	8.93	8.14
1967	7.81	7.82	7.86	7.94	8.15	8.11	8.21	8.39	8.55	8.63	8.87	9.12	8.29
1968	9.37	9.42	9.37	9.12	8.63	8.87	8.75	8.38	8.58	8.43	8.27	7.97	8.76
1969	7.70	7.53	7.50	7.47	7.60	8.05	8.07	8.57	8.70	8.90	8.92	9.23	8.19
1970[3]	9.58	9.55	9.48	10.02	10.10	9.55	9.96	10.12	10.00[3]	9.94	9.90	N.A.	9.84
1971	Not Available												
1972													

[1] Raw silk, white, Japanese, in bales, 20/22 denier, 87% (AA)', f.o.b. warehouse. [2] Beginning Feb. 1963, price in skeins, AAA grade. [3] Beginning Sept. 1970 prices are for KOREAN. *Source: Bureau of Labor Statistics* (0154-0101.01)

Raw Silk Deliveries in the U.S. In Bales

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	2,071	1,450	1,822	1,483	1,532	1,623	1,577	1,607	1,414	1,885	1,493	1,320	19,277
1968	1,430	1,322	1,242	1,576	1,315	1,277	2,018	1,205	904	1,509	1,456	1,480	16,734
1969	806	1,123	1,843	1,390	1,500	1,646	1,663	943	1,483	1,507	1,296	1,194	16,394
1970	1,209	882	1,046	931	730	406	458	344	390	310	232	141	7,079
1971	247	205	187	277	228	129	192	241	247	355	165	253	2,726
1972	233	184	308	198	141	195	182	445	529	209	229	313	3,166
1973[1]	556	355	450	499	393	119	577	214	71	93	105	246	3,678
1974	124	305	233	277	175	288	269	139	97	302	151	96	2,456
1975	190	188	410	393	394	219	380	219	505	585	225	641	4,349
1976	925	469	689	362	251	579	337	358	422	268	222	159	5,041
1977	352	239	242	212	254	259	322	311	370	424	322	433	3,740
1978	321	394	424	382	397	299	316	341	401	280	468	214	4,237
1979	501	302	687	353	471	418	407	756	492	490	368	518	5,763
1980	312	644	422										

[1] Includes re-exports from 1973. *Source: Textile Organon*

Silver

World mine production of silver in 1979 was estimated to be about 5 percent above that of 1978, according to preliminary data of the U.S. Bureau of Mines. U.S. mine production of silver was about 3 percent lower than in 1978. Byproduct silver recovery decreased due to reduced production of silver-containing base metal ores. (About 66 percent of primary supply was a byproduct of copper, lead and zinc mining.) Silver output in Idaho, which accounted for about 48 percent of U.S. production, was the same as that of the previous year. Old scrap recycled in 1979 was estimated at 36 million ounces, equivalent to 21 percent of total consumption.

Imports of silver into the U.S. for consumption decreased during 1979 to about 75.0 million ounces from 75.6 million in 1978. Major import sources were Canada, 37 percent of total imports; Mexico, 24 percent; Peru, 15 percent; the United Kingdom, 6 percent; others, 18 percent. Net import reliance (imports minus exports plus adjustments for government and industry stock changes) in 1979 was 45 percent of apparent consumption versus 48 percent in 1978 and as little as 15 percent in 1975.

Exports of silver from the U.S. dropped to about 20.0 million ounces in 1979 from 22.4 million in the previous year. Most exports went to Japan, the United Kingdom, Canada, and Belgium-Luxembourg.

U.S. demand for silver in 1979 was about 5 times domestic mine production and about 50 percent of world production. The U.S. deficit was met mainly by secondary recovery, existing stocks, and imports. Industrial consumption of silver in the U.S. rose about 9 percent in 1979. End use categories of silver consumed in 1979 were: the photographic industry, which is located primarily in New York State, 39 percent; electrical and electronic components, 25 percent; sterlingware and electroplated ware, 15 percent; brazing alloys and solders, 8 percent; and other uses, 13 percent.

Industry and trading stocks at yearend totaled about 140.9 million ounces. The Chicago Board of Trade warehouses held about 45 percent of these stocks, COMEX warehouses about 37 percent, and refiners, fabricators, and dealers, the remainder. Department of Defense stocks totaled about 5 million ounces, and Bureau of the Mint stocks, 39 million ounces. The national stockpile contained 139.5 million ounces vs. the stockpile goal of zero ounces.

Silver prices rose steadily and sharply throughout 1979. From a price of $5.966 per troy ounce quoted by Handy and Harman on January 2, 1979, prices rose to a high of $28.00 per ounce on December 28,

World Production of Silver, by Selected Countries In Millions of Fine Ounces (Troy Ounces)

Year	Argentina	Australia	Zaire (Congo)	Bolivia[1]	Canada	Morocco	W. Germany	Honduras	U.S.S.R.[2]	Japan	Mexico	Peru	United States	Yugoslavia	World Total[2]
1967	2.58	19.84	1.84	4.52	37.21	.77	2.04	4.01	35.0	10.80	38.27	32.11	32.12	3.08	258.2
1968	2.42	21.39	2.14	5.18	45.01	.92	1.77	4.40	35.0	10.69	40.03	36.36	32.73	3.02	275.3
1969	3.11	24.46	1.90	6.01	43.53	.86	1.68	3.91	37.0	10.81	42.90	35.89	41.91	3.82	295.7
1970	2.05	25.99	1.71	6.82	44.25	.68	1.80	3.82	38.0	10.80	42.84	39.84	45.01	3.42	303.9
1971	3.18	21.70	1.47	5.37	46.02	2.94	1.80	3.64	39.0	11.29	36.66	38.40	41.56	3.35	294.7
1972	3.27	21.89	2.08	5.58	44.79	3.38	1.74	3.60	40.0	10.05	37.48	40.19	37.23	3.58	301.5
1973	2.44	22.42	2.00	5.80	47.49	3.38	1.45	3.15	41.0	8.55	38.79	42.02	37.83	4.30	307.9
1974	3.10	21.54	1.65	5.39	42.81	3.06	1.24	3.66	42.0	7.31	37.55	34.89	33.76	4.70	292.2
1975	2.28	23.35	2.29	5.47	39.70	3.04	1.08	3.80	43.0	8.73	38.03	37.53	34.94	5.41	303.1
1976	1.75	25.07	2.47	5.09	41.20	2.05	1.03	2.96	44.0	9.30	42.64	35.58	34.33	4.63	312.2
1977[3]	1.80	27.42	2.73	5.89	42.76	2.24	.97	3.21	45.0	9.65	47.03	30.10	38.17	4.69	325.5
1978[2]		24.9			40.9		1.10			9.3	50.8	38.6	39.4		333.7
1979[2]		22.9			40.0						58.0	40.0	38.3		351.3

[1] Exports. [2] Estimate. [3] Preliminary. *Source: Bureau of Mines*

World[2] Silver Consumption In Millions of Troy Ounces

	Industrial Uses								Coinage						
Year	Canada	France	W. Germany	India	Japan	Un. Kingdom	United States	World Total	Canada	France	W. Germany	Austria	United States	World Total	World Total
1967	5.4	14.7	48.2	15.0	33.2	24.0	145.0	348.7	14.5	7.5		—	43.9	105.3	454.0
1968	5.1	18.0	50.0	16.0	36.2	23.0	145.0	350.8	9.9	2.9	4.3	2.2	37.0	89.3	440.1
1969	5.7	19.3	50.0	16.0	41.5	24.5	141.5	350.6	—	.6	5.0	3.3	19.4	40.0	390.6
1970	6.0	15.5	48.2	16.0	46.0	25.0	128.4	338.9	—	3.7	7.3	4.1	.7	26.9	365.8
1971	6.0	15.6	59.9	16.0	46.5	25.0	129.1	351.4	.2	.4	19.2	3.2	2.5	28.3	379.7
1972	7.4	16.5	60.0	13.0	54.3	27.0	151.7	388.9	.1	.3	22.6	5.8	2.3	38.4	427.3
1973	8.6	14.3	64.7	13.0	69.0	31.0	195.9	477.8	1.4	.1	9.5	6.6	.9	29.2	507.0
1974	9.6	15.5	59.9	15.0	46.5	25.0	177.0	409.4	8.9	.1	8.8	5.6	1.0	27.9	436.9
1975	10.6	21.2	38.9	13.0	46.4	28.0	157.7	376.8	10.4	5.2	4.3	13.4	2.7	38.8	415.6
1976	9.5	19.0	50.8	18.0	60.7	28.0	170.5	422.1	8.4	6.7	2.9	6.9	1.3	29.7	451.8
1977	8.8	20.6	59.5	17.6	63.2	32.2	153.6	417.5	.3	6.9	2.6	3.0	.4	19.2	436.9
1978	9.0	22.2	26.4	20.0	64.3	29.0	160.2	404.5	.3	11.1	3.6	3.5	.1	29.0	433.5
1979[1]	9.2	21.5	37.1	19.0	65.5	26.5	165.6	410.0	.3	7.7	3.7	5.0	.1	22.8	432.8

[1] Preliminary. [2] Non-communist areas only. *Source: Handy & Harman*

influenced considerably by strong investor demand in an inflationary climate. The rise continued into mid-January, 1980 culminating in a $48.00 peak on January 21, 1980. Subsequently, prices dropped precipitously, to as low as $11.10 per ounce for the Handy and Harman price quotation by March 27, 1980, exacerbated by forced liquidation of a portion of the holdings of a major investor in order to meet margin calls.

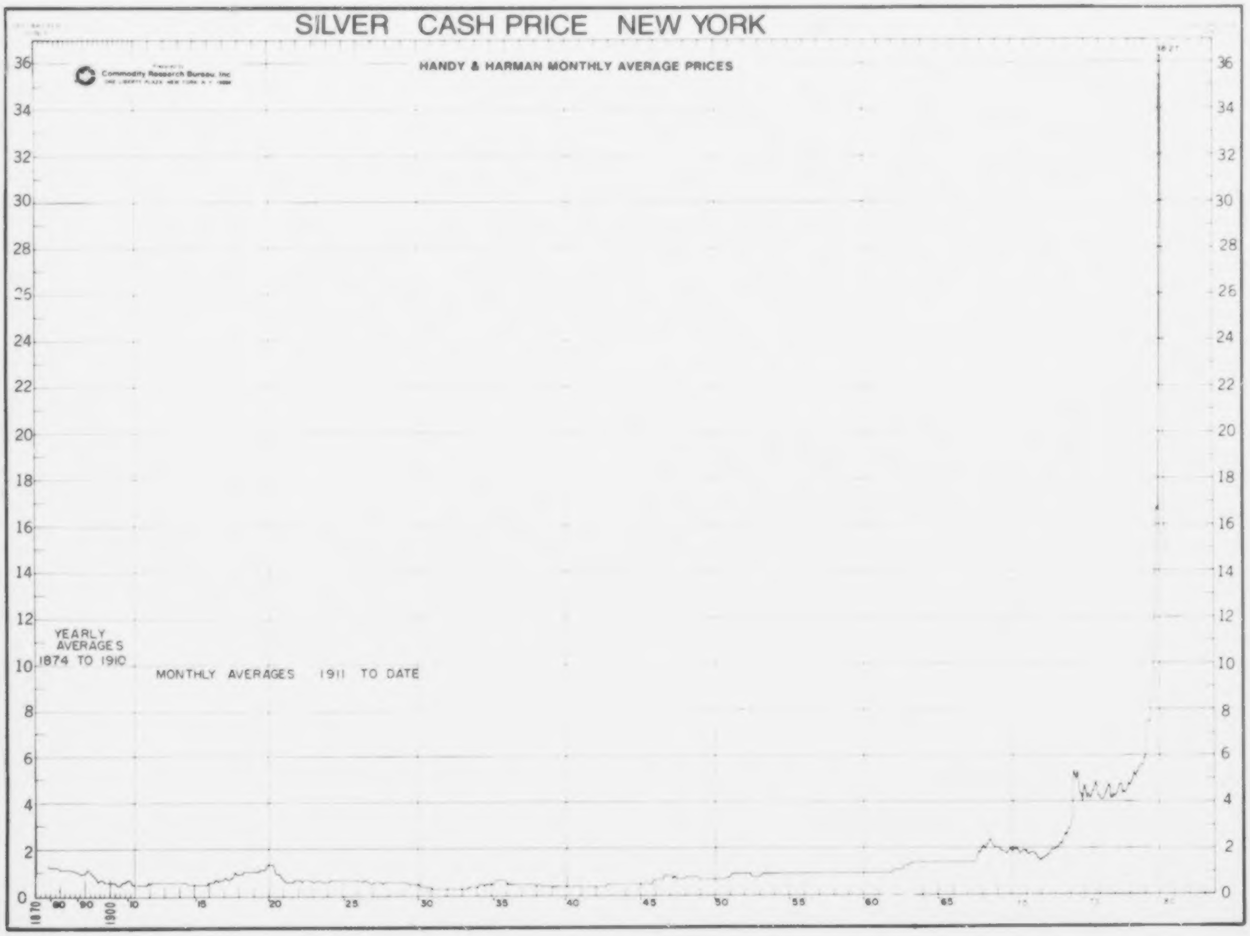
Futures Markets

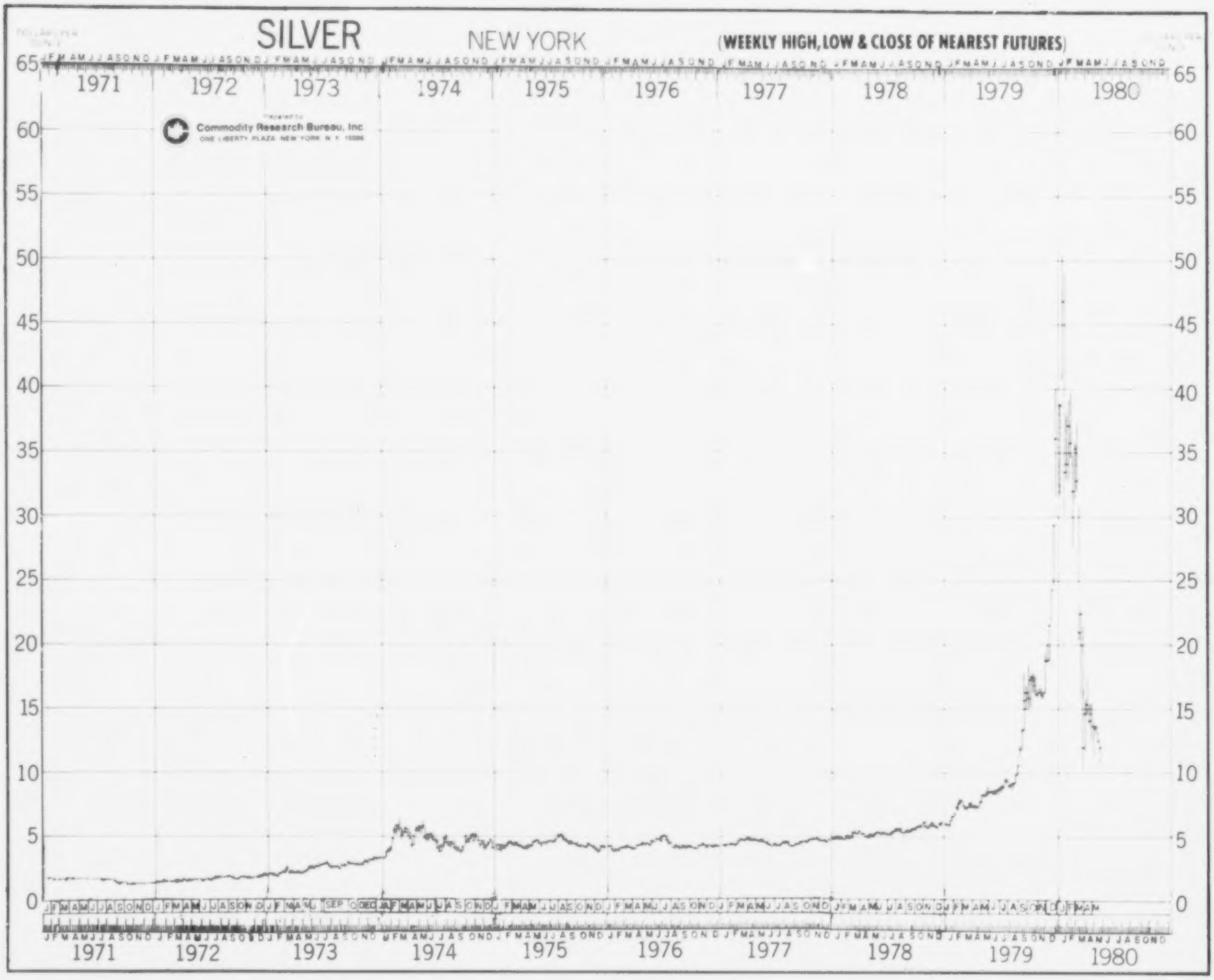
Silver futures are traded on the Commodity Exchange, Inc. of New York (COMEX), the Chicago Board of Trade, the MidAmerica Commodity Exchange, and the London Metal Exchange (LME).

Average Price of Silver in New York In Cents per Troy Ounce (.999 Fine)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	129.3	129.3	129.3	129.3	129.6	130.1	159.3	175.0	168.0	178.6	195.3	206.0	155.0
1968	199.0	185.5	218.1	220.3	237.7	246.4	231.4	219.5	220.9	197.3	201.8	195.9	214.5
1969	197.9	184.0	182.6	177.8	176.1	164.6	161.8	165.3	178.6	187.3	192.3	180.7	179.1
1970	187.7	189.6	188.9	185.3	167.0	163.9	168.7	179.8	180.2	174.6	176.0	163.5	177.1
1971	164.0	160.0	166.9	172.6	166.7	160.8	158.1	158.7	142.1	133.6	132.0	139.4	154.6
1972	147.3	150.4	153.6	157.2	158.3	156.9	173.6	184.6	177.7	181.1	183.3	197.6	168.5
1973	201.7	223.6	230.9	220.7	240.1	262.1	270.6	263.7	267.5	288.6	286.0	313.7	256.0
1974	363.7	535.9	532.6	503.6	543.2	489.6	441.6	443.1	404.9	483.0	469.4	439.1	470.8
1975	419.3	437.0	434.5	420.9	453.8	448.9	470.5	492.5	451.6	432.9	433.2	408.5	442.0
1976	406.3	408.6	418.9	435.1	448.9	481.2	478.0	423.7	429.5	422.5	437.3	434.7	435.4
1977	440.9	452.7	484.2	477.7	469.2	444.3	449.8	444.4	453.9	476.3	482.8	470.6	462.3
1978	493.4	493.6	526.8	511.6	512.0	531.6	533.1	549.5	557.5	591.8	586.5	593.0	540.0
1979	625.0	741.7	745.4	749.3	836.6	853.8	913.5	933.4	1,395.9	1,678.1	1,655.3	2,179.3	1,109.0
1980	3,827.2	3,508.5	2,413.3	1,450.0									

Source: Handy & Harman





U.S. Consumption of Silver, by End Use In Thousands of Troy Ounces

Year	Bearings	Brazing Alloys & Solders	Catalysts	Dental & Medical	Electroplated Ware	Electrical & Electronic Products: Batteries	Electrical & Electronic Products: Contacts & Conductors	Jewelry	Mirrors	Photographic Materials	Sterling Ware	Coins, Medallions[2]	Total Net Industrial Consumption	Coinage	Total Consumption
1967	600	15,391	5,847	2,690	17,897	11,405	26,777	5,751	2,174	50,306	30,269	1,925	171,032	43,851	214,883
1968	451	15,124	2,310	3,094	15,279	5,764	25,805	4,538	1,744	41,607	28,349	1,228	145,293	36,833	182,126
1969	481	16,549	4,081	1,591	12,706	3,799	34,555	3,011	1,510	41,380	20,291	1,592	141,546	19,408	160,594
1970	383	14,035	1,999	1,804	11,437	6,342	25,183	5,119	1,386	38,044	19,115	3,556	128,404	709	129,113
1971	355	12,085	1,730	1,485	10,909	5,631	27,954	3,447	1,112	36,073	22,729	5,636	129,146	2,474	131,620
1972	344	12,214	3,430	1,991	12,716	6,044	36,434	4,870	1,225	38,251	27,163	6,381	151,063	2,284	153,347
1973	375	17,736	5,988	3,022	14,542	4,155	40,209	5,778	2,579	51,979	40,100	9,477	195,941	920	196,861
1974	416	14,514	7,293	2,401	13,179	4,195	31,218	5,235	3,947	49,579	22,147	22,272	177,015	1,017	178,031
1975	458	13,582	8,785	1,503	8,717	4,253	27,211	12,734	3,150	46,074	23,717	7,186	157,650	2,740	160,390
1976	273	11,198	12,267	1,942	9,534	3,490	32,329	10,995	4,622	55,530	19,815	8,240	170,559	1,315	171,874
1977	523	12,362	8,883	2,232	6,844	5,783	31,316	8,059	2,131	53,679	16,690	4,252	153,613	91	153,704
1978[1]	373	10,987	8,197	2,033	7,274	6,029	30,756	6,766	1,862	64,299	17,908	2,727	169,165	45	160,210
1979[3]	300	11,700	8,800	2,400	9,300	5,300	36,500	5,900	1,900	64,900	14,900	2,600	165,600	100	166,700
1980															

[1] Preliminary. [2] Includes commemorative objects. [3] Estimate. *Source: Bureau of Mines*

Commodity Exchange Inc. (COMEX) Warehouse Stocks of Silver In Millions of Ounces

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1974	63.9	63.9	60.6	64.3	69.8	74.9	76.8	72.3	69.6	68.2	68.4	69.6
1975	68.0	69.5	72.6	70.5	73.7	77.2	78.3	80.9	80.2	82.7	82.4	81.7
1976	86.3	84.1	82.8	79.3	77.3	71.8	65.3	58.0	54.6	50.0	49.3	52.3
1977	54.8	56.5	57.2	63.3	65.6	67.0	69.4	70.6	65.2	64.9	60.2	64.5
1978	68.7	70.0	72.3	74.2	73.4	70.8	72.8	73.6	72.4	66.7	64.3	63.0
1979	58.2	52.0	51.8	49.2	50.3	55.5	54.1	48.9	47.3	51.8	60.3	70.2
1980	74.8	76.0	77.8	83.1	84.2							
1981												

Source: Commodity Exchange, Inc.—New York

United States Production[1] of Refined Silver from All Sources In Thousands of Troy Ounces

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
1968	956	1,807	1,313	3,015	4,457	6,587	6,586	7,483	6,977	9,030	7,561	8,998	56,770
1969	8,666	7,566	9,642	9,358	8,579	7,872	7,320	6,181	5,966	7,204	6,172	6,747	80,273
1970	6,243	7,029	7,025	7,861	7,453	6,077	6,096	5,450	4,997	5,947	5,837	6,724	76,739
1971	4,937	6,365	8,456	6,436	7,014	6,042	1,333	1,776	4,881	6,596	6,580	5,738	66,155
1972	6,128	6,612	5,944	6,818	6,020	5,339	6,632	6,601	7,024	6,529	5,105	5,767	74,519
1973[2]	——55,975——				12,406	12,633	11,650	13,841	12,235	15,535	13,541	13,949	161,765
1974	14,476	13,483	17,322	17,147	19,300	18,550	9,679	12,455	14,050	14,019	16,148	19,890	186,519
1975	16,815	14,623	14,619	13,693	12,281	12,267	12,090	12,996	13,222	13,832	12,372	14,251	161,568
1976	9,369	11,558	14,260	14,155	10,952	12,633	8,771	10,342	12,598	13,998	16,018	18,378	154,230
1977	13,196	10,114	13,173	13,335	13,260	14,100	5,781	7,840	10,412	13,643	13,002	14,966	143,125
1978	10,694	12,699	12,503	10,871	12,196	12,000	10,186	12,214	10,727	12,666	11,526	12,721	141,003
1979	10,592	10,888	13,070	11,451	11,938	11,600	12,433	9,837	9,118	12,476	12,221	17,008	155,723
1980	18,088	17,548	17,673										
1981													

[1] Output of commercial bars .999 fine, including U.S. Mint purchases of crude. Production is from both foreign and domestic silver. [2] Data beginning 1973 are for production from all sources (Primary, Coins, old & new scrap). The total for 1972 was 178,665,000 oz. *Sources: American Bureau of Metal Statistics; The Silver Institute, Inc.*

U.S. Mine Production of Recoverable Silver In Thousands of Troy Ounces

Year	Arizona	California	Colorado	Idaho	Michigan	Missouri	Montana	Nevada	New Mexico	New York	Tennessee	So. Dakota	Utah	Other States	Total
1968	4,958	598	1,646	15,959	473	341	2,133	645	225	28	90	138	5,121	372	32,729
1969	6,141	492	2,599	18,930	1,009	1,442	3,429	884	466	32	79	124	5,954	320	41,906
1970	7,330	451	2,933	19,115	892	1,817	4,304	718	782	24	95	120	6,030	393	45,006
1971	6,170	444	3,390	19,140	670	1,661	2,748	601	782	18	131	107	5,294		41,564
1972	6,653	176	3,664	14,251	785	1,972	3,325	595	1,017	25	83	100	4,300		37,233
1973	7,199	56	3,942	13,620	850	2,058	4,350	624	1,111	54	73	72	3,619	197	37,827
1974	6,356	42	2,784	12,436	643	2,387	3,512	872	1,195	64	20	62	3,208	171	33,762
1975	6,286	80	3,366	13,868	632	2,525	2,617	1,609	792	56	54	68	2,822	164	34,938
1976	7,615	57	4,083	11,561	311	2,277	3,279	784	892	49	78	58	3,134	146	34,328
1977	6,828	58	4,663	15,292	335	2,363	3,367	738	918	56	60	69	3,283	125	38,166
1978[1]	6,638	58	4,217	18,379	354	2,056	2,918	804	895	21	46	53	2,885	437	39,385
1979[2]	7,400	63	3,000	19,000		2,100	3,300	40	1,150			70	2,500		37,000
1980															

[1] Preliminary. [2] Forecast. *Source: Bureau of Mines*

SILVER

Silver Total Open Interest at New York (COMEX) & Chicago   In Thousands of Contracts

Year	At New York (COMEX)												At Chicago (CBT)			
	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Apr. 1	July 1	Oct. 1
1975	123.9	95.2	84.5	88.4	74.7	85.6	84.6	88.9	118.1	140.5	176.5	214.5	118.1	62.2	99.6	124.2
1976	250.3	197.6	176.4	176.7	169.0	168.1	138.4	130.7	138.1	155.7	208.6	287.2	169.8	88.4	121.6	127.5
1977	398.1	338.0	309.5	282.2	234.6	205.8	156.1	130.1	135.6	181.7	211.3	241.7	186.0	156.8	183.5	211.6
1978	287.8	245.4	242.4	226.0	217.8	208.6	196.2	212.6	214.4	239.1	277.5	304.8	275.9	240.2	230.0	235.4
1979	299.5	242.9	218.7	203.5	185.7	170.0	153.3	154.5	156.2	167.3	144.3	133.4	252.8	180.5	166.6	156.7
1980	123.6	77.7	63.4	48.5	27.1	23.8							88.9	23.6		
1981																

Source: Commodity Exchange of N.Y. (COMEX) & Chicago Board of Trade

Value of United States Exports of Silver (Excludes Silver Coin)   In Millions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1969	8.7	17.6	10.4	12.4	27.9	8.6	13.5	18.5	12.7	17.8	4.4	4.3	156.7
1970	8.6	10.4	5.8	3.4	4.4	1.8	1.3	2.9	1.9	1.1	1.3	5.9	27.6
1971	4.2	2.0	3.3	2.7	1.5	1.3	.9	.7	1.6	.2	.2	1.4	19.5
1972	.9	1.5	10.6	.6	2.9	1.2	16.3	9.0	.8	1.5	1.6	2.3	31.6
1973	.6	.4	2.0	.9	1.7	.9	5.6	4.6	3.3	1.9	1.6	1.1	27.6
1974	1.1	2.4	10.4	2.9	13.2	14.4	5.8	8.7	1.6	5.3	8.2	7.7	81.7
1975	20.3	10.0	23.6	11.2	12.0	5.0	37.8	9.5	5.0	4.8	5.2	3.8	132.6
1976	2.9	4.3	11.5	5.0	4.6	3.3	6.6	4.9	7.3	2.6	2.9	5.3	61.4
1977	5.4	7.0	3.6	6.7	4.6	4.6	14.6	7.8	10.7	4.6	.5	14.7	84.6
1978	8.8	10.7	7.9	13.7	5.8	6.2	6.1	12.5	18.3	12.5	8.4	5.5	119.1
1979	8.9	15.3	11.2	6.4	12.5	13.9	10.7	7.9	32.1	78.7	166.7	100.2	471.2
1980	298.4	345.3											
1981													

Source: Department of Commerce

Value of United States Imports of Silver (Excludes Silver Coin)   In Millions of Dollars

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1969	6.7	8.2	9.1	9.5	9.4	8.3	8.7	7.3	10.3	8.8	5.8	7.7	80.1
1970	5.9	5.6	7.6	8.0	4.3	4.6	3.7	6.7	5.3	4.4	3.8	4.9	65.0
1971	5.3	2.7	5.2	5.9	2.9	3.8	3.6	4.7	4.1	3.2	4.2	3.9	49.5
1972	5.3	4.7	5.3	3.5	6.4	3.4	6.0	3.0	5.4	5.9	5.7	4.8	59.4
1973	8.3	7.0	8.7	6.8	7.5	15.2	33.0	27.6	30.8	22.2	66.4	32.2	268.6
1974	13.5	20.5	67.4	58.5	39.1	47.3	69.1	30.5	31.3	37.9	43.8	42.6	501.5
1975	22.1	26.1	36.2	28.6	31.4	28.4	22.1	25.2	28.0	33.0	18.3	31.1	330.6
1976	28.0	18.6	27.6	17.7	15.8	29.8	22.5	52.1	22.9	23.2	31.5	38.8	325.3
1977	36.5	23.7	41.9	31.2	25.8	30.2	17.9	31.3	31.8	26.4	32.7	25.6	354.8
1978	136.4	82.4	210.9	164.6	29.9	33.2	32.2	33.1	30.6	35.7	30.0	30.6	389.0
1979	32.2	38.7	95.5	29.1	61.6	50.1	52.8	43.8	78.0	202.2	120.8	155.6	961.8
1980	258.5	174.3											
1981													

Source: Department of Commerce

Soybean Meal

The USDA, in May 1980, projected U.S. soybean meal supplies for the 1979/80 marketing year ending September 30, 1980 at a record-large 27.0 million short tons, 10 percent above 1978/79 supply.

Domestic use of soybean meal in the 1979/80 season was projected by the USDA at a new high of 19.3 million tons, 9 percent above 1978/79. Increased hog and poultry production, and relatively low protein meal prices led to heavy feeding of soybean meal.

Exports of soybean meal during the 1979/80 season were projected by the USDA at a record-large 7.4 million tons, up 12 percent from the previous season. Livestock and poultry production was rising in a number of major meal-consuming countries, and U.S. soybean meal exports in the October 1979–March 1980 period were sharply above those for the same period the previous season despite the U.S. suspension of the shipment of about 400,000 tonnes of U.S. soybean meal, among other commodities, to the Soviet Union. However, with the harvest of a

Supply and Distribution of Soybean Meal in the United States In Thousands of Short Tons

	Supply					Distribution				Price Per Ton Bulk, Decatur	
		Production									
Year Begin. Oct.	For Stocks Oct. 1	Total	For Animal Feed	For Edible Protein Pdt's.	Total	(Domestic) Feed²	Exports	Shipments to U.S. Terr.	Total	44% Protein	49 or 50% Protein
1969–0	157	17,596			17,753	13,514	4,035	67	17,616	78.45	86.61
1970–1	137	18,035			18,172	13,406	4,559	61	18,126	78.51	84.33
1971–2	146	17,024			17,170	13,110	3,805	63	16,978	90.20	98.20
1972–3	192	16,709			16,900	11,920	4,745	52	16,717	228.99	253.42
1973–4	183	19,674	N.A.	N.A.	19,858	13,766	5,548	36	19,350	146.35	160.57
1974–5	507	16,701	16,437	265	17,209	12,501	4,299	50	16,850	130.86	141.26
1975–6	358	20,754	20,395	359	21,112	15,552	5,145	61	20,758	147.77	157.68
1976–7	355	18,488	18,101	388	18,843	14,001	4,559	55	18,615	199.80	218.73
1977–8[1]	228	22,371	21,961	410	22,599	16,209	6,080	67	22,356	164.20	179.45
1978–9[3]	243	24,354	23,986	368	24,507	17,645	6,610	75	24,330	190.10	206.30
1979–0[3]	267	26,293	25,993	300	26,560	18,915	7,200	85	26,200	170.00	
1980–1[3]	360										

[1] Preliminary. [2] Includes small quantities used for industrial purposes, estimated at 30,000 tons annually. [3] Estimate.
Source: Economic Research Service, U.S.D.A.

U.S. Exports of Soybean Cake & Meal by Country of Destination In Thousands of Short Tons

Year Begin. Oct. 1	Belgium Luxembourg	Japan	Canada	Denmark	France	W. Germany	Hungary	Ireland	Italy	Netherlands	Philippines	Poland	United Kingdom	Yugoslavia	Grand Total
1969–0	219.0	40.3	270.9	32.5	622.8	855.9	170.6	60.4	309.5	659.0	49.1	109.9	42.9	173.8	4,035
1970–1	308.8	32.8	242.1	85.6	712.1	987.4	156.0	36.5	330.8	675.4	53.8	112.3	109.1	186.8	4,559
1971–2	328.4	24.5	204.5	95.5	610.3	705.0	94.1	72.4	295.6	482.8	58.0	65.8	58.3	116.2	3,805
1972–3	179.8	287.0	199.2	114.3	678.5	987.7	92.6	76.3	445.0	248.4	14.2	337.0	48.5	152.2	4,745
1973–4	204.7	137.2	289.8	56.6	866.6	1,192	113.1	53.3	631.6	313.3	49.9	287.6	60.2	316.4	5,548
1974–5	243.8	.1	224.5	17.6	786.7	995.4	219.5	37.3	422.2	428.7	12.6	220.6	91.4	—	4,299
1975–6	262.5	132.4	306.2	38.6	780.1	1,112	65.3	54.1	464.5	113.0	.1	397.8	60.0	202.3	5,145
1976–7	92.0	239.7	282.7	40.5	144.4	1,051	42.1	39.8	472.6	623.7	—	283.2	51.1	104.9	4,539
1977–8[1]	40.8	299.1	374.3	28.7	161.6	1,146		92.2	817.6	721.8	23.2	543.9	71.6	124.7	6,081

[1] Preliminary. *Source: The Bureau of the Census, U.S.D. of Commerce*

Production & Foreign Trade of Soybean Cake & Meal in the U.S. In Thousands of Short Tons

	Production													Soybeans (Meal Equivalent of Exports)²
Crop Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Total	
1969–0	1,416	1,419	1,454	1,432	1,346	1,445	1,437	1,549	1,462	1,441	1,430	1,238	17,070	10,669
1970–1	1,530	1,508	1,560	1,560	1,387	1,463	1,459	1,465	1,402	1,430	1,474	1,265	17,495	10,286
1971–2	1,406	1,409	1,519	1,507	1,431	1,518	1,387	1,489	1,353	1,384	1,381	1,241	17,024	9,562
1972–3	1,562	1,661	1,618	1,656	1,523	1,507	1,364	1,449	1,226	1,043	1,116	984	16,709	11,208
1973–4	1,465	1,688	1,704	1,757	1,658	1,786	1,647	1,694	1,630	1,704	1,654	1,288	19,674	13,170
1974–5	1,467	1,458	1,427	1,484	1,282	1,436	1,368	1,245	1,256	1,408	1,533	1,338	16,702	10,024
1975–6[1]	1,701	1,697	1,808	1,748	1,617	1,820	1,830	1,891	1,772	1,670	1,556	1,645	20,754	13,134
1976–7[1]	1,747	1,763	1,741	1,725	1,709	1,771	1,596	1,454	1,340	1,211	1,187	1,243	18,488	13,226
1977–8[1]	1,781	2,017	2,044	2,007	1,778	2,050	1,903	1,960	1,725	1,681	1,758	1,695	21,629	17,182
1978–9[1]	2,115	2,099	2,292	2,158	1,955	2,122	1,989	2,065	1,979	1,901	1,827	1,822	24,323	17,884
1979–0[1]	2,286	2,433	2,506	2,555	2,400									19,475

[1] Preliminary. [2] Calculated at 47.5 lbs. of meal per bushel. *Source: Economic Research Service, U.S.D.A.*

record 1980 Brazilian soybean crop, competition from Brazil, which is the world's largest exporter of soybean meal, was expected to curb U.S. soybean exports to some extent in the spring and summer of 1980. Over half of U.S. soybean meal exports are to the European Community, with Japan and Eastern Europe also important purchasers.

The USDA, in April 1980, projected 1979/80 potential world protein meal production at 99.5 million tonnes (44 percent protein equivalent). Production of this amount would be 17 percent above the estimated 1978/79 equivalent of 84.7 million tonnes. (USDA world production estimates for oilseeds are calculated from assumed extraction rates applied to that portion of each crop considered available for crushing and/or export—not actual production.)

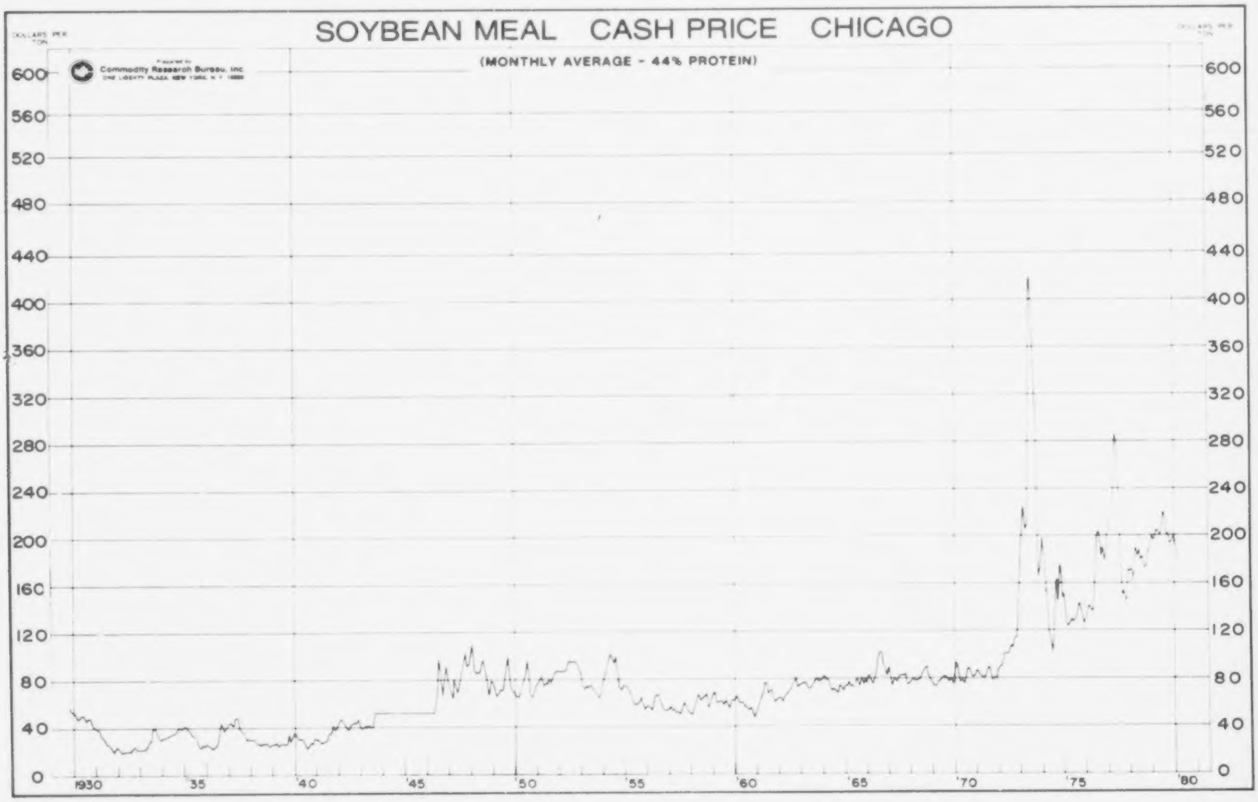
World protein meal consumption (44% protein basis) in 1979/80 was estimated by the USDA to increase substantially from the previous season's level as both lower meal prices and relatively more expensive feedgrains made higher protein concentrates more attractive in animal rations. Major growth areas for soybean meal consumption were expected to be the U.S., Brazil, Eastern Europe, the Soviet Union and China, and also some developing countries.

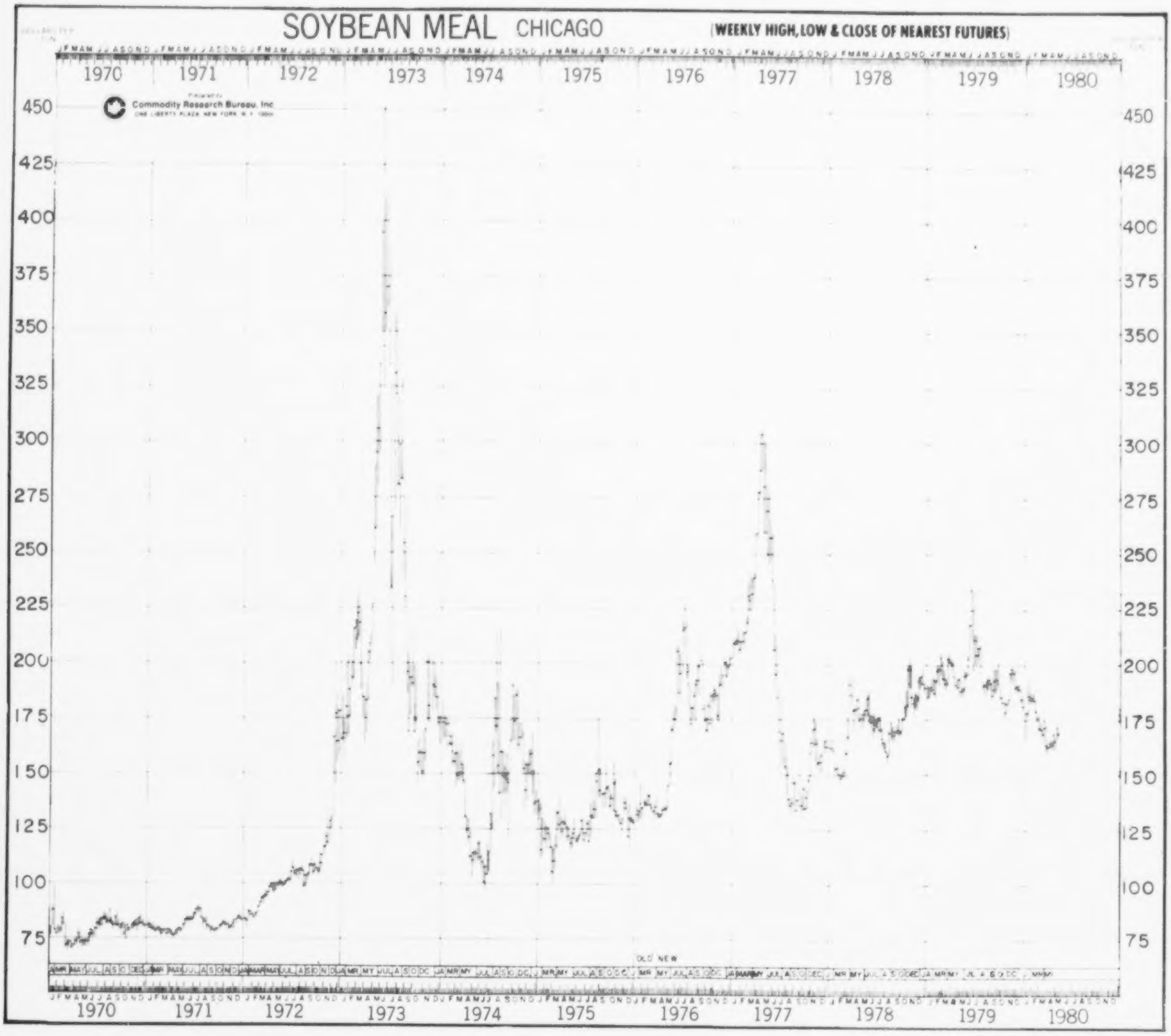
Soybean meal futures in the United States are traded on the Chicago Board of Trade.

Average Price of Soybean Meal (44% Protein) at Chicago In Dollars per Ton (Bagged)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1970	92.50	90.25	76.80	79.60	76.20	79.90	88.10	89.20	86.00	82.40	83.20	87.40	84.35
1971	85.60	82.60	82.40	80.25	84.25	87.50	90.25	84.75	79.25	80.75	79.80	86.60	83.67
1972	88.60	91.00	97.00	100.60	101.40	101.20	107.50	107.10	113.90	114.90	129.40	180.60	111.09
1973	195.00	225.30	206.50	209.80	321.20	418.90	317.80	291.60	214.70	166.20	173.80	198.80	244.97
1974	178.80	166.80	154.20	124.30	116.30	107.10	145.80	164.00	146.00	176.00	148.80	151.20	148.28
1975	137.00	125.00	125.60	129.90	128.30	129.20	132.30	143.40	143.00	135.30	126.90	134.60	132.54
1976	137.75	141.75	137.50	136.60	162.10	198.10	204.10	183.50	189.60	179.80	191.40	207.80	172.42
1977	217.20	221.20	236.40	285.80	268.40	235.50	172.50	150.90	154.25	145.40	172.30	170.70	202.55
1978	173.10	164.00	190.50	184.10	188.50	180.80	183.10	174.10	175.40	188.40	188.70	200.40	182.59
1979	196.50	202.40	306.20	202.80	199.70	221.40	213.60	201.00	200.70	193.50	195.20	200.10	202.76
1980	192.40	186.50											

Source: Consumer Marketing Service, U.S.D.A.





Stocks (at Oil Mills) of Soybean Cake & Meal in the United States In Thousands of Short Tons

Year	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1
1967–8	110.1	155.1	168.0	199.8	142.7	158.5	196.3	150.8	123.8	151.6	136.0	100.5
1968–9	95.4	111.5	112.5	149.2	174.4	170.5	150.7	151.5	162.3	133.1	140.5	130.7
1969–0	108.5	120.2	139.3	103.2	108.5	128.3	125.4	130.9	201.9	179.3	130.2	170.8
1970–1	137.0	168.8	182.7	129.7	185.5	189.3	153.2	168.1	219.3	169.1	215.0	215.4
1971–2	145.8	205.2	192.8	144.3	153.9	135.5	160.5	218.0	186.7	189.1	243.2	221.6
1972–3	191.7	185.7	170.7	217.9	193.3	210.0	206.3	213.5	203.4	204.5	214.4	212.8
1973–4	183.2	234.3	242.2	284.6	249.0	281.1	361.6	348.0	427.9	514.3	475.9	535.4
1974–5	507.3	508.2	563.7	529.0	541.0	540.0	556.7	470.5	448.1	421.7	394.8	404.5
1975–6	358.3	396.1	441.4	371.4	378.1	419.5	358.3	358.8	462.8	369.8	406.9	350.5
1976–7[1]	354.9	423.5	427.7	353.9	384.7	429.9	412.6	449.0	408.3	390.7	399.0	270.4
1977–8[1]	228.3	270.0	239.8	245.1	251.7	239.6	227.3	302.8	281.9	191.1	262.6	234.1
1978–9[1]	242.9	239.5	205.9	289.1	242.2	225.0	238.2	264.7	237.2	239.0	262.3	173.7
1979–0[1]	267.4	234.3	195.2	240.5	184.3	191.3						
1980–1												

[1] **Preliminary.** *Source: Economic Research Service, U.S.D.A*

Soybean Oil

The U.S. soybean oil supply for the 1979/80 season ending September 30, 1980, was projected by the USDA in May 1980 at about 12.8 billion pounds, up nearly 6 percent from the previous season's supply.

Domestic use of soybean oil was expected by the USDA to total more than 9.2 billion pounds, up from about 8.9 billion in 1978/79, reflecting its price advantage, despite larger prospective supplies of cottonseed and sunflower oils, and lard. Domestic consumption of soybean oil now accounts for nearly two-thirds of all food fats and oils, and 80 percent of the edible vegetable oils utilized in the United States.

U.S. exports of soybean oil in 1979/80 were projected at 2.4 billion pounds, about 3 percent above the previous season's record shipments. India and Brazil were important purchasers of U.S. soybean oil in 1979/80.

The USDA, in April 1980, projected a new record high of 59.5 million tonnes for potential 1979/80 world fats and oils production, up 9 percent from the 1978/79 estimate, based on normal crushing rates and oil yields. World consumption of fats and oils was expected to increase less than available supplies. Because available supplies of fats and oils other than soybean oil were projected to rise slightly less than total demand, soybean oil usage was expected to increase at a somewhat faster pace than that for other fats and oils.

Soybean oil prices declined throughout much of the 1979/80 marketing year as record supplies, both anticipated and realized, in this country and elsewhere put pressure on prices of fats and oils. The increased cost of carrying stocks as interest rates rose sharply, also exerted an adverse influence on prices.

Futures Market

Soybean oil futures are traded on the Chicago Board of Trade.

Production, Consumption, Stocks and Foreign Trade of Soybean Oil in the U.S. In Millions of Pounds

Year	Production		Consumption		Stocks December 31		Imports for Consumption	Exports	
	Crude	Refined	In Refining	In End Pdt's.	Crude	Refined		Crude	Refined
1967	6,150	5,073	5,282	5,203	405.8	257.4	—	628.5	283.8
1968	6,150	5,228	5,487	5,411	305.4	283.2	—	576.8	364.0
1969	6,805	5,860	6,093	5,948	274.9	242.3	—	542.2	333.6
1970	8,086	6,276	6,523	6,322	450.7	304.9	—	1,119.4	367.6
1971	8,082	6,298	6,551	6,323	447.6	354.6	—	1,288.6	427.5
1972	8,084	6,521	7,032	6,827	581.5	315.0	—	841.6	452.1
1973	7,540	6,509	7,046	6,831	411.7	278.8	—	723.9	243.8
1974	8,705	6,812	7,000	7,039	375.6	299.4	.1	1,607	
1975	7,862	6,423	6,686	6,830	495.3	304.6	—	758	
1976	9,640	7,185	7,476	7,577	1,141	347.1	—	901.7	77.3
1977	8,837	7,790	8,092	7,451	524.0	340.0	.2	1,427.3	81.3
1978[1]	10,621	8,618	8,955	8,175	623.1	347.5	—	1,560.8	77.8
1979[1]	11,504	9,117		8,659	656.6	373.5	—	2,371	
1980									

[1] Preliminary. *Source: Bureau of Census*

U.S. Exports of Soybean Oil,[1] by Country of Destination In Millions of Pounds

Year Begin. Oct. 1	Mexico	Colombia	Canada	Chile	Dominican Rep.	Haiti	Peru	India	Israel	Mexico	Morocco	Pakistan	Iran	Tunisia	Grand Total
1967–8	—	—	25.1	33.2	50.0	16.5	—	195.8	49.4	11.3	54.8	223.7	7	96.7	967.2
1968–9	—	—	29.0	30.5	27.7	19.2	—	327.9	34.2	4.2	28.1	113.8	48	57.5	869.6
1969–0	—	—	51.0	37.8	25.2	19.2	—	247.6	37.7	18.2	52.9	355.0	159	95.3	1,420
1970–1	—	17	50	58	24	26	111	284	41	1	90	278	134	76	1,742
1971–2	—	15	43	2	20	27	84	144	44	—	122	142	113	135	1,398
1972–3	33	7	38	2	3	21	92	95	51	33	7	130	78	23	1,066
1973–4	135	24	73	69	18	16	135	94	21	135	43	197	235	69	1,435
1974–5	119	18	44	6	38	26	56	8	15	119	5	26	239	40	1,028
1975–6	7	31	70	2	32	31	32	35	22	7	11	332	56	5	976
1976–7	34	60	57	26	10	38	126	556	7	34	7	263	159	2	1,547
1977–8[2]	65	97	61	48		30	151	546	14	65	12	211			2,057
1978–9															

[1] Crude & refined oil combined as such. [2] Preliminary. *Source: The Bureau of the Census, U.S.D. of Commerce*

U.S. Stocks of Soybean Oil (Crude & Refined) at Factory & Warehouses In Millions of Pounds

Year	Oct. 1	Nov. 1	Dec. 1	Jan. 1	Feb. 1	Mar. 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1
1967–8	596.1	575.1	574.8	663.2	688.4	695.0	711.5	747.0	745.6	705.9	743.2	695.7
1968–9	539.9	541.4	562.6	588.6	525.8	517.7	611.0	595.5	623.5	557.2	563.3	552.5
1969–0	415.4	470.7	492.1	517.2	552.0	558.6	560.7	632.3	715.8	651.3	638.3	670.6
1970–1	543.4	562.3	717.6	755.7	751.7	787.8	756.0	765.8	757.9	719.0	745.3	819.2
1971–2	772.6	725.9	808.6	802.2	782.8	847.1	881.2	952.6	944.9	829.6	854.1	841.6
1972–3	785.2	806.2	839.1	896.5	948.6	966.5	920.6	1,005	778.3	822.7	748.8	620.0
1973–4	515.5	531.6	599.9	690.5	623.3	642.5	626.0	726.3	765.1	708.6	702.7	777.1
1974–5	793.6	734.7	681.5	673.6	689.6	633.8	647.4	662.2	606.7	528.6	544.3	567.1
1975–6	560.5	568.0	657.7	799.9	844.8	913.3	946.0	1,061	1,109	1,275	1,230	1,295
1976–7[1]	1,251	1,351	1,432	1,488	1,600	1,609	1,486	1,479	1,355	1,168	1,032	937.3
1977–8[1]	766.6	752.1	766.5	864.0	918.8	861.2	808.3	826.9	833.8	839.3	825.6	777.5
1978–9[1]	728.6	813.4	837.1	970.6	932.2	942.8	1,004	987.3	1,043	922.9	915.4	815.1
1979–0[1]	775.8	819.8	867.3	1,030	1,155	1,202						
1980–1												

[1] Preliminary. *Source: Bureau of the Census*

U.S. Production of Refined Soybean Oil In Millions of Pounds

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1968–9	446.7	439.5	462.4	460.1	448.3	506.4	479.1	466.3	498.7	452.4	459.4	489.3	5,609
1969–0	513.0	526.2	560.8	533.0	509.2	566.4	545.9	505.6	531.9	488.1	516.5	491.9	6,289
1970–1	534.5	514.5	538.8	543.5	511.1	557.9	495.0	506.7	526.7	482.9	532.8	568.6	6,313
1971–2	534.5	504.2	534.1	529.7	527.5	564.2	537.9	562.6	537.0	484.7	557.9	530.3	6,364
1972–3	562.9	565.4	560.7	574.6	522.9	579.4	514.7	542.1	516.6	433.2	544.8	504.6	6,373
1973–4	577.1	601.6	597.3	666.4	596.0	616.1	575.0	581.8	542.4	560.5	583.9	510.8	7,009
1974–5	585.0	511.4	482.1	515.0	468.6	497.1	497.0	467.9	489.6	509.3	550.9	538.3	6,112
1975–6	666.9	617.3	605.0	611.9	558.7	646.5	606.6	624.2	627.1	584.7	607.9	568.1	7,325
1976–7[1]	575.4	596.3	578.0	553.5	567.3	698.7	624.7	639.1	578.1	553.1	648.4	612.0	7,225
1977–8[1]	686.8	764.2	745.0	719.2	665.9	816.9	752.3	746.3	662.5	649.2	725.3	679.9	8,614
1978–9[1]	782.8	747.7	765.7	753.3	681.7	768.9	760.1	835.4	742.8	748.3	762.8	693.0	9,043
1979–0[1]	805.9	797.6	760.3	801.9	757.5								
1980–1													

[1] Preliminary. *Source: Bureau of the Census*

U.S. Production of Crude Soybean Oil In Millions of Pounds

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1967–8	529.3	535.3	525.7	526.2	510.4	510.9	472.8	520.5	507.5	507.6	477.6	408.0	6,032
1968–9	578.8	584.1	544.6	524.2	474.6	578.5	537.6	582.4	541.2	545.9	526.9	511.8	6,531
1969–0	660.3	657.6	663.7	664.2	626.5	671.3	672.3	724.1	680.3	664.7	655.6	563.8	7,904
1970–1	729.8	705.6	727.7	724.8	653.2	695.9	695.7	696.4	670.9	674.9	692.2	597.5	8,265
1971–2	645.2	644.2	690.6	689.9	658.9	706.4	646.7	698.8	635.4	648.6	645.7	581.0	7,891
1972–3	713.3	742.4	716.6	723.5	676.8	680.8	618.3	655.8	553.1	470.1	510.5	439.8	7,501
1973–4	676.8	764.9	769.8	797.7	751.5	809.0	750.8	777.8	756.7	788.3	759.0	592.3	8,995
1974–5	672.9	627.5	621.4	651.6	555.9	632.4	600.9	557.6	557.8	623.9	674.5	599.8	7,376
1975–6	783.9	776.7	846.7	807.4	757.6	852.4	846.1	869.8	813.9	788.7	720.5	766.1	9,630
1976–7[1]	807.4	804.0	805.7	786.7	791.2	823.7	747.3	682.4	631.1	566.6	553.6	578.2	8,578
1977–8[1]	821.9	922.3	931.5	911.9	809.5	943.3	866.9	908.2	795.1	777.9	815.5	783.3	10,287
1978–9[1]	989.3	974.8	1,050	989.1	902.3	982.2	939.6	964.7	930.5	899.9	856.7	849.9	11,329
1979–0[1]	1,020	1,068	1,102	1,115	1,065								
1980–1													

[1] Preliminary. *Source: Bureau of the Census*

SOYBEAN OIL

U.S. Exports of Soybean Oil (Crude & Refined) In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	25.8	45.7	120.0	40.9	67.8	150.9	65.5	43.2	117.9	80.1	114.4	40.1	912.3
1968	30.3	68.4	80.9	41.4	48.0	119.2	46.2	29.7	124.2	67.2	56.4	111.5	823.4
1969	58.9	19.1	18.6	77.1	43.2	120.3	69.6	20.2	90.9	45.3	100.8	97.2	761.1
1970	62.7	46.2	151.7	73.8	81.1	197.8	136.0	126.7	165.2	103.9	52.7	174.6	1,372
1971	112.0	109.3	156.0	168.0	191.8	140.9	189.0	78.1	122.2	143.0	43.5	153.8	1,612
1972	157.8	71.3	59.3	69.3	89.0	263.3	94.1	57.5	68.3	58.4	109.7	50.7	1.149
1973	52.7	120.9	132.3	49.3	111.8	90.3	81.5	37.0	45.2	12.9	31.7	108.6	874.3
1974	122.2	120.2	98.3	146.0	96.9	226.6	239.0	84.1	83.2	85.9	111.1	193.0	1,067
1975	129.0	71.6	116.1	57.6	72.9	55.7	65.3	13.1	13.5	43.8	78.9	40.4	758.0
1976	32.6	120.2	89.6	55.5	160.9	74.4	77.6	41.8	151.5	100.8	107.7	75.8	1,088
1977[1]	103.7	92.3	236.4	103.3	209.4	159.9	154.2	72.0	66.0	108.8	185.5	175.3	1,667
1978[1]	113.1	141.8	252.6	218.9	176.4	147.2	165.5	108.8	193.4	96.8	154.8	175.4	1.945
1979[1]	219.1	249.8	199.0	185.6	107.3	299.0	166.2	187.4	159.1	127.8	208.5	261.9	2,371
1980[1]	173.4	250.0											

[1] Preliminary. *Source: Dept. of Commerce*

Average Prices of Crude Domestic Soybean Oil (in Tank Cars) F.O.B. Decatur In Cents per Pound

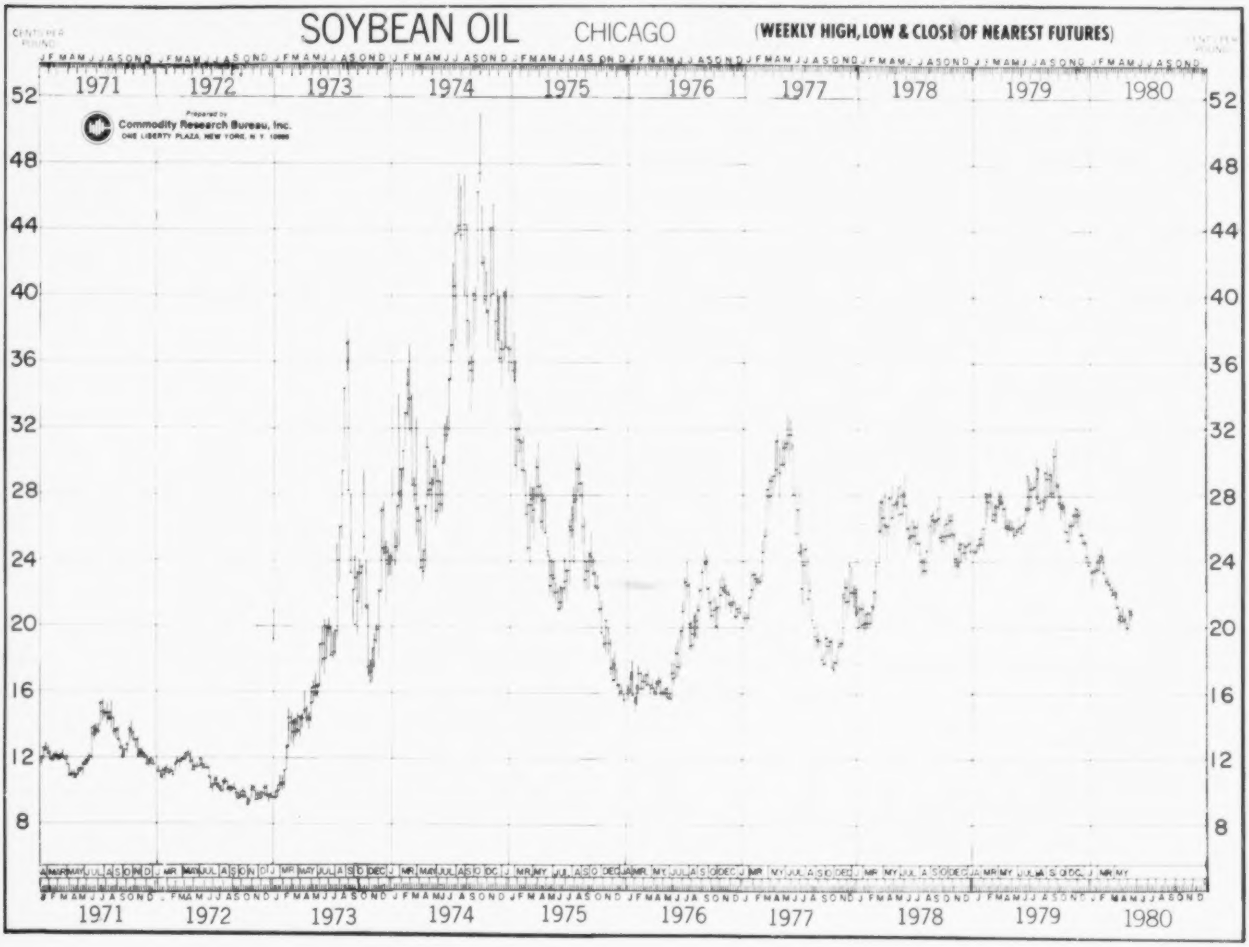
Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
1967–8	8.8	8.6	8.6	8.7	9.5	9.1	8.8	8.7	7.8	7.4	7.5	7.5	8.4
1968–9	7.3	7.9	8.1	8.6	9.1	8.8	8.4	8.4	7.8	8.2	8.9	9.7	8.4
1969–0	10.6	10.9	9.6	9.6	11.5	12.2	12.2	11.3	11.1	11.5	11.6	12.1	11.2
1970–1	14.0	13.9	12.4	12.3	12.1	12.2	11.2	11.4	12.8	14.5	14.5	12.8	12.8
1971–2	13.2	12.5	11.7	10.9	11.0	11.7	11.9	11.4	10.7	10.3	10.1	9.8	11.3
1972–3	9.6	9.6	9.7	10.1	13.0	13.9	15.0	17.1	19.3	22.4	33.5	24.3	16.5
1973–4	23.1	20.4	26.0	28.6	36.4	30.2	28.2	29.4	31.6	40.5	43.3	40.7	31.5
1974–5	42.3	40.4	38.0	33.6	29.4	29.1	28.2	23.6	23.3	27.5	28.5	24.4	30.7
1975–6	21.4	18.9	16.8	16.2	16.3	16.6	16.3	15.8	17.6	20.9	20.4	22.5	18.3
1976–7	20.7	21.8	21.0	20.9	22.4	26.5	29.6	31.3	28.3	23.8	21.1	19.2	23.9
1977–8	18.8	21.0	22.6	20.9	21.6	26.6	26.8	28.8	26.9	25.9	26.3	27.8	24.5
1978–9	26.7	23.7	25.8	25.8	27.3	26.9	26.7	27.8	27.4	29.1	29.2	30.0	27.2
1979–0	27.9	27.8	26.2	23.6	23.4	22.1							
1980–1													

Source: Bureau of Labor Statistics

Average Price of Refined (in Tanks) Soybean Oil at New York In Cents per Pound

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
1967–8	11.0	10.8	10.8	10.9	11.2	11.0	10.8	10.8	9.8	9.4	9.5	9.5	10.5
1968–9	9.3	10.0	10.6	10.7	11.0	10.6	10.6	10.4	9.6	9.9	10.8	11.5	10.4
1969–0	12.4	12.7	11.6	11.6	13.6	14.0	13.9	13.3	13.0	13.4	13.5	13.8	13.1
1970–1	15.9	16.0	14.2	14.3	14.2	14.3	13.2	13.0	14.2	16.0	16.0	14.5	14.7
1971–2	14.6	14.1	12.8	12.4	12.5	13.0	13.6	13.0	12.3	11.7	11.4	11.4	12.7
1972–3	11.1	11.2	11.1	11.5	14.2	15.5	16.8	18.3	20.5	21.7	34.5	25.7	17.7
1973–4	25.1	22.1	27.8	29.1	36.7	33.1	29.7	31.0	33.1	40.9	45.1	41.9	33.0
1974–5	45.3	41.5	39.7	35.0	30.4	30.9	29.8	25.2	25.4	31.1	32.5	29.7	33.0
1975–6	26.8	24.1	22.2	21.3	21.2	21.9	21.5	21.4	22.4	25.7	25.5	28.4	23.6
1976–7	26.8	27.0	26.1	26.0	27.8	31.1	34.3	36.8	33.7	28.8	26.9	24.6	29.2
1977–8	24.2	25.9	27.8	26.1	26.8	31.7	32.5	34.2	31.8	31.3	31.0	32.7	29.7
1978–9	32.1	33.5	33.0	30.8	32.7	33.0	31.8	31.6	32.7	34.3	34.7	35.0	32.9
1979–0	32.6	32.6	30.9	28.8	28.5	27.1							
1980–1													

Source: Bureau of Labor Statistics

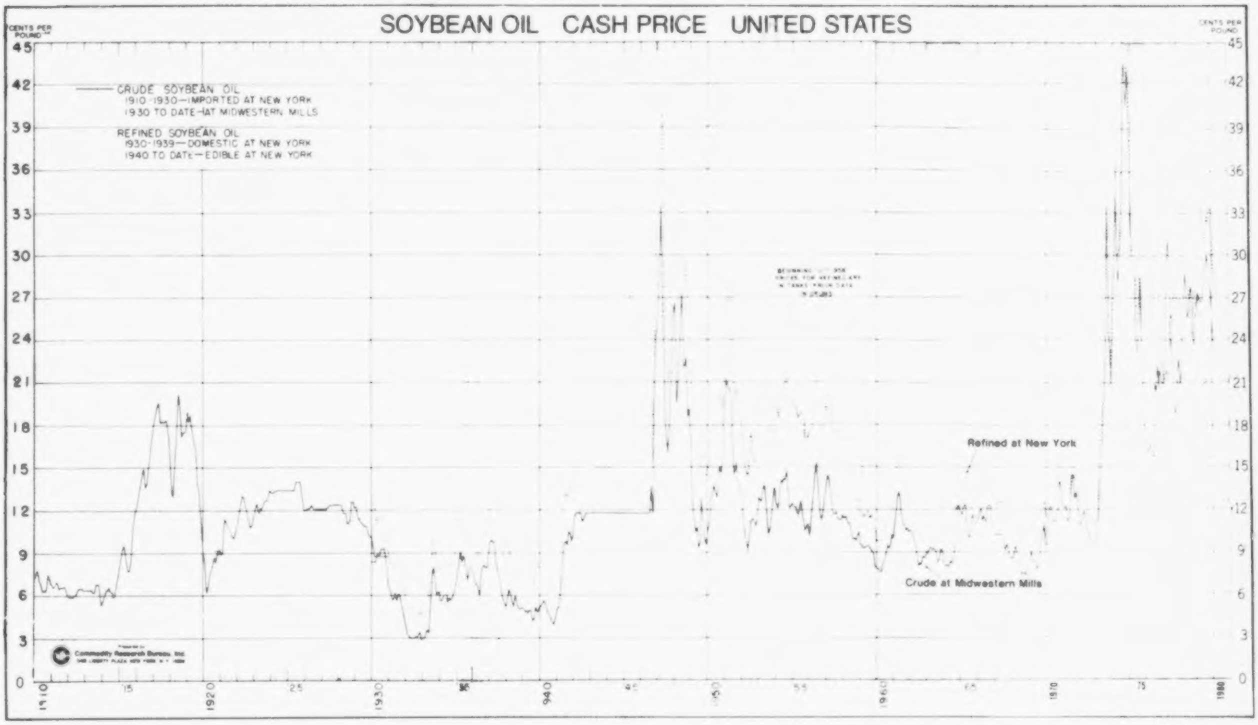


Supply & Distribution of Soybean Oil in the U.S. In Millions of Pounds

Year Begin. Oct.	Production	Stocks Oct. 1	Exports & Shipments	Domestic Disappearance												
					Food					Non-Food					
				Total	Shortening	Margarine	Cooking & Salad Oils	Other Edible	Total Food	Paint & Varnish	Resins & Plastics	Other Drying Oil Pdt's	Other Inedible[3]	Foots & Loss	Total Non-Food
1967–8	6,032	596	993	5,096	1,816	1,234	1,494	44	4,588	86	97	7	59	259	508
1968–9	6,531	540	899	5,756	1,978	1,290	1,967	36	5,271	87	94	7	61	236	485
1969–0	7,904	415	1,448	6,328	2,255	1,415	2,150	37	5,857	94	79	7	48	243	471
1970–1	8,265	543	1,782	6,253	2,077	1,381	2,288	34	5,780	82	65	6	52	267	472
1971–2	7,892	773	1,440	6,440	2,089	1,413	2,469	38	6,009	81	55	4	40	251	431
1972–3	7,501	785	1,086	6,685	2,230	1,491	2,469	39	6,229	81	57	4	44	270	456
1973–4	8,995	516	1,461	7,256	2,321	1,513	2,884	30	6,748	91	77	5	55	280	508
1974–5	7,375	794	1,090	6,518	1,882	1,486	2,680	22	6,070	83	58	3	44	260	448
1975–6	9,630	561	1,034	7,906	2,416	1,691	3,274	24	7,405	94	66	3	44	294	501
1976–7[1]	8,578	1,251	1,607	7,454	2,189	1,568	3,165	25	6,947	85	83	4	58	278	508
1977–8[2]	10,288	771	2,137	8,193	2,281	1,584	3,324								
1978–9[2]	11,323	729	2,409	8,867											
1979–0[2]	11,769	776	2,430	9,120											
1980–1															

[1] Preliminary. [2] Forecast. [3] Includes soap, fatty acids & other miscellaneous. *Source: Economic Research Service, U.S.D.A.*

SOYBEAN OIL



Soybean Oil Consumption in End Products in the U.S. In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	452.2	418.7	455.6	404.4	436.8	450.6	373.2	443.7	450.1	448.5	436.2	432.7	5,203
1968	457.1	450.8	448.5	428.0	448.1	457.0	413.3	444.9	457.0	496.0	442.1	467.8	5,411
1969	489.0	429.2	478.8	464.5	485.4	517.2	457.7	480.8	513.5	552.5	527.7	551.9	5,948
1970	531.0	523.3	554.7	526.1	491.0	549.5	488.3	513.7	524.3	548.2	519.9	552.3	6,322
1971	534.7	505.8	535.0	497.9	505.6	556.3	497.3	537.3	554.0	522.0	522.2	554.8	6,323
1972	557.4	535.3	592.2	553.5	589.0	572.6	506.5	578.4	562.8	594.7	590.7	594.1	6,827
1973	595.8	546.3	599.0	529.6	592.5	542.6	471.7	580.8	530.3	621.0	629.2	591.9	6,831
1974	673.7	599.8	644.9	583.4	585.0	571.3	597.0	569.2	524.4	621.8	552.1	516.4	7,039
1975	553.4	521.2	528.2	540.3	527.4	531.3	555.3	562.8	604.8	672.0	609.2	624.4	6,830
1976	658.0	617.6	687.3	623.4	625.9	634.6	626.8	635.1	623.7	621.3	609.1	613.8	7,577
1977[1]	571.5	591.2	694.5	597.0	611.0	553.8	517.9	629.8	621.5	658.6	682.3	721.9	7,451
1978[1]	664.1	648.8	771.7	686.5	662.4	640.5	596.2	699.8	672.5	715.9	709.3	707.5	8,175
1979[1]	695.1	636.2	755.3	682.4	775.0	701.6	711.4	744.8	700.9	781.4	742.2	730.1	8,656
1981[1]	750.7	718.7											

[1] Preliminary. *Source: Bureau of the Census*

Soybeans

U.S. soybean supplies for the 1979/80 marketing year ending August 31, 1980, were a record large 2.4 billion bushels, up 20 percent from the previous record high of 2.0 billion bushels in 1978/79.

Soybean crushings for the 1979/80 season were projected by the USDA at a record large 1.2 billion bushels, nearly 18 percent more than in the previous season. Very favorable crushing margins and strong meal demand early in the season encouraged the very heavy crushing rate. Spot soybean processing margins averaged 78 cents per bushel during September–December 1979 (38 cents above 1978) then dropped to as low as 3 cents per bushel by early May 1980. This collapse in crushing margins resulted from the sharp decline in oil and meal prices relative to soybeans. Many processors "locked in" profitable crushing margins in the fall of 1979 with short product/long soybean futures positions, so the extremely low margins did not fully reflect their economic situation—partly explaining why crushing margins continued at a record pace into the spring of 1980. However, a slowdown in crushing operations was expected by the summer. A few years ago, a soybean crushing margin of 30 to 40 cents per bushel was considered favorable. But this is no longer the case, with increased costs due to inflation, higher labor and machinery costs, as well as increases in processing materials such as hexane solvent.

U.S. soybean exports in the 1979/80 season were forecast by the USDA at a new high of 825 million bushels, nearly 10 percent larger than the 753 million bushels exported in the 1978/79 season. Major foreign markets for U.S. soybeans in 1979/80 included the Netherlands, Japan, Spain, the Federated Republic of Germany, France, Italy, the USSR, the People's Republic of China, and Taiwan. A potential restraint on U.S. soybean (and/or meal) shipments to the European Community is the reduced level of manioc (cassava) imports by the EC, which suggests lowered soybean meal needs. The use of low-protein cassava in feed rations requires a higher percentage of meal than would be the case if feed grains were to comprise the total energy portion of the ration. Thus, reduced cassava imports suggest increased recourse to grains and resultant lessened demand for high-protein meal in rations.

U.S. carryover of soybeans on August 31, 1980 was expected by the USDA, in early May 1980, to total 400 million bushels, up from 174 million a year earlier, and record large. However, a carryover of this size would equal a little less than a 2½ month average requirement.

World 1979/80 supplies (including carryover stocks) of soybeans were estimated by the USDA to be 21 percent above the 1978/79 level, at a record 104.1 million tonnes. World trade, as a result, was expected to climb by 12 percent to record exports of 28.0 million tonnes. About 74 percent of the supplies were expected to be crushed during the current year as against an average of 79 percent in the past 3 years. The reduced crush, as a proportion of total supplies, denoted a buildup in 1979/80 ending stocks, which were projected to more than double to 13.7 million tonnes. This would be equal to about 2 months' crushing needs at the 1979/80 average monthly crush. (It should be noted that total world stocks are a combination of individual country stocks estimated on differing marketing years and do not represent stocks at any particular point in time.)

Despite indicated record demand for soybeans in the 1979/80 season prices dropped sharply, due largely to the heavy oilseed supply relative to demand. The suspension of soybeans sales (about 26 million bushels) to the Soviet Union also contributed to price weakness.

Government Support Program

The national average loan rate for 1980 crop soybeans was established by the USDA at $4.50 per bushel (No. 1 grade; 12.8–13.0 percent moisture) unchanged from 1979. Loans mature nine months after the date of loan approval.

Futures Markets

Soybean futures in the U.S. are traded on the Chicago Board of Trade and on the MidAmerica Commodity Exchange in Chicago.

World Production of Soybeans In Thousands of Metric Tons

Year of Harvest*	Argentina	Brazil	Canada	China[2]	Colombia	Indonesia	Japan	Korea, South	Mexico	Romania	Taiwan	Thailand	United States	U.S.S.R.	World Total
1967	20	716	220	6,800	80	416	190	201	121	41	75	53	25,269	543	36,543
1968	22	654	246	6,950	87	420	168	245	270	47	73	45	26,575	528	39,740
1969	32	1,057	209	6,480	100	389	136	229	300	51	67	61	30,127	434	40,516
1970	27	1,509	283	6,200	95	498	126	232	240	91	65	70	30,839	603	41,811
1971	59	2,077	280	6,900	106	475	122	222	250	165	61	67	30,675	535	43,556
1972	78	3,666	375	6,500	122	516	127	224	375	186	60	80	34,581	258	47,646
1973	496	7,876	397	10,000	114	541	118	246	510	244	61	115	42,117	424	63,912
1974	485	9,892	301	9,500	114	589	133	319	420	298	67	114	33,102	360	56,513
1975	695	10,810	367	10,000	169	590	126	311	625	213	62	121	42,113	780	67,914
1976	1,400	12,200	250	9,000	75	590	126	311	280	213	53	121	35,042	480	58,983
1977[1]	2,700	10,200	530	9,500	103	522	110	295	490	213	52	105	47,947	540	74,660
1978[3]	3,800	10,500	520	10,500	135	523	111	319	300	191	60	135	50,900	640	80,450
1979[3]	4,600	14,000	670	10,500									61,720	650	96,040
1980															

[1] Preliminary. [2] Mainland. [3] Projected. * Split year includes Northern Hemisphere crops harvested in the late months of the first year shown combined with Southern Hemisphere crops harvested in the early months of the following year.
Source: Foreign Agricultural Service, U.S.D.A.

SOYBEANS

U.S. Soybean Price Support Program & Official Crop Production Reports In Millions of Bushels

Year	Quantity Put Under Support	Deliveries to C.C.C.	Sept. 1 Stocks		National Avg. Support		(In Thousands of Bushels) Crop Production Reports					
			Total	Gov't. Owned	% of Parity	$ Per Bu.	August 1	September 1	October 1	November 1	December 1	Final
1967	201.4	84.4	90.1	33.9	76	2.50	998,974	1,002,618	993,715	985,184	972,701	976,439
1968	340.3	170.1	166.3	137.9	74	2.50	1,064,358	1,079,627	1,065,552	1,079,490	1,079,662	1,106,958
1969	179.5	.2	326.8	336.8	62	2.25	1,060,859	1,054,722	1,070,182	1,094,466	1,116,876	1,133,120
1970	146.4	[2]	229.8	196.9	60	2.25	1,113,566	1,133,193	1,134,595	1,134,151	1,135,769	1,127,100
1971	168.2	[2]	98.8	11.4	56	2.25	1,235,451	1,186,301	1,175,447	1,200,201	1,169,361	1,176,101
1972	90.6	[2]	72.0	1.5	54	2.25	1,269,616	1,286,015	1,317,090	1,350,517	1,276,290	1,270,608
1973	124.2	[2]	59.6	—	45	2.25	1,539,771	1,598,746	1,588,361	1,574,586	1,566,518	1,547,543
1974	34.6	—	170.8	—	37	2.25	1,314,232	1,315,792	1,262,352	1,243,912	1,233,425	1,216,287
1975	—	—	188.2	.4	—None—		1,457,672	1,442,422	1,473,782	1,519,882	1,521,370	1,547,383
1976	22.5	—	244.9	—	34	2.50	1,344,343	1,274,263	1,249,713	1,252,148	[3]	1,287,560
1977	97.5	—	102.9	—	46	3.50	1,602,065	1,644,220	1,647,315	1,682,705	[3]	1,761,755
1978[1]	62.2	—	161.0	—	51	4.50	1,765,024	1,772,364	1,792,064	1,810,389	[3]	1,870,181
1979[1]			174.4	—	~~51~~	4.50	2,129,254	2,174,179	2,213,289	2,235,869	[3]	2,267,647
1980												

[1] Preliminary. [2] Less than 50,000 bushels. [3] No Report. *Source: Crop Reporting Board, U.S.D.A.*

Soybean Stocks in the United States In Thousands of Bushels

Year	On Farms				Off Farms				Total Stocks			
	Jan. 1	April 1	June 1[2]	Sept. 1	Jan. 1	April 1	June 1[2]	Sept. 1	Jan. 1	April 1	June 1[2]	Sept. 1
1967	344,394	217,411	84,611	41,626	377,041	240,500	114,170	48,511	721,435	457,911	198,781	90,137
1968	350,816	235,842	120,742	60,709	432,333	301,182	164,389	105,618	783,149	537,024	285,131	166,327
1969	410,168	276,930	141,360	70,551	550,329	452,343	316,815	254,992	960,497	729,300	458,175	325,543
1970	372,069	209,236	78,711	40,580	683,425	525,001	324,676	189,256	1,055,494	734,237	403,387	229,836
1971	391,960	246,491	90,595	20,554	553,012	369,063	190,832	78,225	944,972	615,554	281,427	98,779
1972	397,605	218,609	58,438	11,779	491,387	333,677	174,394	60,183	888,992	552,286	232,832	71,962
1973	429,071	145,333	33,855	9,415	437,924	358,372	145,352	50,222	866,995	503,705	179,207	59,637
1974	608,160	331,885	151,104	64,545	552,756	405,943	190,865	106,337	1,160,916	737,828	341,969	170,882
1975	483,869	331,241	165,324	75,114	505,392	323,317	191,704	109,922	989,261	654,558	357,028	185,036
1976	590,466	411,366	253,963	86,150	665,689	456,283	300,938	158,781	1,256,155	867,649	554,901	244,931
1977	473,120	227,723	92,374	32,748	559,045	390,214	243,335	70,168	1,032,165	617,937	335,709	102,916
1978	672,861	393,684	207,102	59,000	652,400	455,448	298,815	102,044	1,325,261	849,132	505,917	161,044
1979[1]	700,713	414,372	242,466	61,823	692,534	467,646	284,850	112,579	1,393,247	882,018	527,316	174,402
1980[1]	893,326	603,758			877,896	580,322			1,771,222	1,184,080		
1981												

[1] Preliminary. [2] Data prior to 1976 are AS OF JULY 1. *Source: Crop Reporting Board, U.S.D.A.*

U.S. Commercial Stocks of Soybeans on the First of the Month In Millions of Bushels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1967	16.2	12.6	11.7	12.5	11.2	8.0	5.6	5.1	4.9	3.3	13.2	23.4
1968	23.1	21.5	21.0	20.0	14.9	11.8	12.6	9.1	5.5	6.5	41.3	48.9
1969	45.6	46.9	51.1	50.7	48.2	39.1	35.9	31.9	32.7	34.1	60.2	80.2
1970	79.4	84.8	82.5	82.3	72.4	59.0	43.8	8.7	34.3	17.8	30.1	40.7
1971	47.2	51.4	54.4	57.1	54.2	41.6	35.0	36.5	17.3	12.1	48.5	48.8
1972	41.8	37.7	41.1	49.0	48.4	36.1	27.1	18.8	13.6	7.0	25.0	32.0
1973	39.1	32.0	56.8	59.7	48.9	31.8	22.8	16.6	12.1	10.5	30.4	35.6
1974	33.6	32.0	35.3	36.2	27.3	21.2	21.2	20.3	18.0	14.3	51.6	55.4
1975	48.1	43.3	40.5	31.1	18.0	12.8	16.6	13.0	12.6	14.2	60.2	62.5
1976	52.0	55.7	57.1	51.7	42.5	37.0	32.5	30.4	21.3	27.9	54.4	52.2
1977	46.8	49.5	51.1	52.3	55.4	50.0	38.7	19.6	8.5	10.9	43.6	50.9
1978	46.2	44.3	41.8	49.1	47.9	42.7	30.6	23.0	10.7	13.0	58.3	63.2
1979	60.9	57.6	62.0	60.8	52.5	40.7	37.6	31.2	19.3	11.5	77.6	84.9
1980	76.5	71.5	73.8									

Source: Foreign Agricultural Service, U.S.D.A.

Salient Statistics of Soybeans in the United States

Crop Year	Planted Alone (1,000 Acres)	Acreage Harvested (1,000 Acres)	Yield Per Acre (Bus.)	Farm Price ($ Bu.)	Farm Value (Million Dollars)	Pounds Per Bushel Crushed: Yield of Oil	Pounds Per Bushel Crushed: Yield of Meal	U.S. Exports of Soybeans Crop Year (Sept.-Aug.) (Million Bus.): Grand Total	Bel.-Luxem.	Denmark	Canada	W. Germany	Japan	Netherlands	Taiwan	U.S.S.R.
1967–8	40,819	39,805	24.5	2.49	2,434	10.57	47.71	266.6	8.7	15.5	21.7	32.0	73.7	36.8	10.6	—
1968–9	42,265	41,391	26.7	2.43	2,689	10.61	47.43	286.8	10.2	11.8	37.9	30.5	69.9	42.7	16.6	—
1969–0	42,534	41,337	27.4	2.35	2,664	10.66	47.36	432.6	16.1	18.4	70.0	41.8	101.4	57.4	21.2	—
1970–1	43,802	42,249	26.7	2.85	3,215	10.83	47.39	433.8	13.2	21.4	42.2	53.0	102.8	57.9	19.6	—
1971–2	43,472	42,705	27.5	3.03	3,560	10.98	47.43	416.8	5.7	16.2	31.3	52.0	107.4	64.1	23.9	0
1972–3	46,885	45,683	27.8	4.37	5,551	10.59	47.04	479.4	8.2	17.4	22.1	54.7	121.0	84.3	19.6	31.5
1973–4	56,675	55,667	27.8	5.68	8,787	10.76	47.18	539.1	13.2	12.5	37.9	72.9	98.8	101.1	20.5	.7
1974–5	53,507	51,341	23.7	6.64	8,070	10.51	47.48	420.7	5.6	5.9	26.9	51.0	96.9	77.7	24.4	0
1975–6	54,550	53,579	28.9	4.92	7,618	10.94	47.27	555.1	[illegible]	15.1	28.0	45.6	118.1	130.5	32.8	11.4
1976–7	50,226	49,358	26.1	6.81	8,769	11.09	47.81	564.1	15.1	11.3	31.6	55.9	118.3	110.5	25.6	30.3
1977–8	58,760	57,612	30.6	5.88	10,352	10.89	47.34	700.5	17.5	15.6	9.7	56.0	133.6	150.2	31.4	27.3
1978–9[1]	64,383	63,343	29.5	6.66	12,459	11.07	47.63	753.0								
1979–0[1]	71,586	70,530	32.2	6.12	13,875			815								
1980–1[1]																

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Supply and Distribution of Soybeans in the United States In Millions of Bushels

Crop Year Begin. Sept. 1	Supply: Stocks, Sept. 1: Farms	CCC	Mills, Elevators[2]	Total	Production	Total Supply	Distribution: Crushings	Exports	Seed	Feed	Residual	Total Distribution
1967–8	41.6	0	48.5	90.1	976.4	1,066.5	576.4	266.6	48.6	.9	7.8	900.2
1968–9	60.7	—	105.6	166.3	1,107.0	1,273.3	605.9	286.8	47.3	.9	5.4	946.4
1969–0	70.6	5.3	247.3	326.8	1,133.1	1,459.9	737.3	432.6	48.5	.9	10.8	1,230.1
1970–1	40.6	8.7	180.5	229.8	1,127.1	1,356.9	760.1	433.8	48.1	1.1	15.1	1,258.2
1971–2	20.6	—	78.2	98.8	1,176.1	1,274.9	720.5	416.8	51.0	1.1	13.5	1,202.9
1972–3	11.8	0	60.2	72.0	1,270.6	1,342.6	721.8	479.4	60.8	1.1	19.8	1,282.9
1973–4	9.4	0	50.2	59.6	1,547.5	1,607.1	821.3	539.1	56.1	1.2	18.7	1,436.4
1974–5	64.5	0	106.3	170.9	1,216.3	1,387.2	701.3	420.7	57.2	1.0	21.7	1,201.9
1975–6	75.1	0	109.9	188.2	1,547.4	1,735.5	865.1	555.1	53.5	1.2	15.7	1,490.6
1976–7	86.2	0	158.8	244.9	1,287.6	1,532.5	790.2	564.1	61.0	1.0	13.3	1,429.6
1977–8	32.7	0	70.2	102.9	1,761.8	1,864.7	926.7	700.5	68.0	1.0	7.5	1,703.7
1978–9[1]	59.0	0	102.0	161.0	1,870.2	2,031.2	1,018	753.0	75.0	1.0	11.0	1,858.0
1979–0[3]	61.8	0	112.6	174.4	2,267.6	2,442.0	1,090	815	79	1	17	2,000
1980–1												

[1] Preliminary. [2] Also warehouses. [3] Estimates. *Source: Economic Research Service, U.S.D.A.*

Production of Soybeans for Beans in the U.S., by Selected States In Millions of Bushels

Year	Ark.	So. Car.	Ill.	Ind.	Iowa	La.	Mich.	Minn.	Miss.	Mo.	N. Car.	Ohio	Tenn.	Nebr.	Ky.
1967	91.3		186.3	71.0	144.3	30.0	10.2	70.0	50.6	75.3	27.4	50.2	27.9		
1968	91.3		209.9	103.9	178.0	38.8	12.0	71.1	56.3	102.6	17.0	70.9	24.2		
1969	92.4	22.5	228.8	106.0	177.1	33.0	11.6	75.0	50.7	80.3	23.0	73.0	29.0	24.9	12.6
1970	99.0	20.2	210.8	101.6	184.6	40.5	13.3	78.8	58.1	88.4	20.8	72.7	26.5	17.9	14.3
1971	92.5	23.0	236.0	111.4	178.8	39.5	10.3	63.9	56.6	97.3	23.8	80.3	31.7	15.2	20.8
1972	81.0	20.0	259.4	108.8	216.0	38.3	13.6	90.3	48.0	108.9	29.1	79.8	28.6	23.0	23.6
1973	116.3	23.0	281.3	135.1	263.5	34.8	16.6	127.3	60.5	126.9	34.8	89.8	36.9	36.3	26.0
1974	81.7	24.0	202.6	97.3	199.1	44.0	13.2	84.0	46.3	93.5	30.5	79.8	31.9	28.2	25.0
1975	117.5	30.4	299.5	121.6	237.0	48.0	15.9	98.6	70.2	113.6	33.4	102.3	46.3	32.4	29.7
1976	82.1	21.4	249.5	111.5	200.0	63.0	11.6	66.4	71.5	84.0	24.6	95.0	40.5	19.6	28.9
1977	105.8	26.7	336.3	144.3	251.3	63.0	21.6	133.8	78.5	148.8	29.0	120.0	52.2	40.7	40.9
1978	115.2	32.3	307.9	144.2	290.7	71.0	19.2	146.2	81.7	157.9	41.2	125.6	56.9	42.5	42.3
1979[1]	144.2	39.8	374.2	159.1	310.5	89.6	28.6	167.4	118.9	186.8	45.8	145.1	70.7	54.7	54.0
1980															

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

SOYBEANS

Highest and Lowest Prices of May Soybean Futures on the Chicago Board of Trade In Cents per Bushel

Year of Delivery		Year Prior to Delivery							Delivery Year					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	Range
1969	High	271¼	268¼	264⅝	264¼	264¼	268⅜	267	268⅝	268⅛	266½	266¾	268	271¼
	Low	264⅛	260⅜	260	257⅝	258	262¼	263	264⅞	265¾	262⅜	261¾	265	257⅝
1970	High	249⅛	252⅝	250⅜	252⅞	260⅞	263¼	258	260⅝	263½	262½	266⅞	270	270
	Low	244⅜	245⅞	246¾	246⅝	250¼	253¼	252¼	254¾	257⅞	258½	259½	262¾	244⅜
1971	High	308	314½	314	305¾	322½	318¾	308¾	317	314	309¼	299⅜	299¾	322½
	Low	298⅛	295½	289¾	288½	298⅜	304½	298¼	301⅜	306	297¾	286½	290½	286½
1972	High	332½	351¼	343	338¾	340	334¾	329⅞	325½	336½	349	361¼	359⅞	361¼
	Low	309½	328	322	315	317⅛	312¼	318¾	310	316¾	333	341¾	342⅞	309½
1973	High	339	343½	352	360¼	364½	390¼	437½	469	635	665	749	1020	1020
	Low	328½	328⅛	328⅞	344½	343	355¾	387¾	413¾	460	530	543	748	328⅛
1974	High	684	794	906	702	676½	639½	648½	665	690	655	617	557½	906
	Low	546	545	670	610	527	521	587	584	623	596	530	521	521
1975	High	603	887	880	857	971	907	816	742	624½	615½	614	544	971
	Low	531	594	726	711½	798	746	707½	575	505	487¼	535½	503	487¼
1976	High	538	661	680	637	604	526	522	505	499	492¾	489½	536½	680
	Low	498	512	592½	571	507½	473½	457½	461	477	464¾	466½	478	457½
1977	High	711	784	709	771	690	691	712	741	793	899	1076½	1030	1076½
	Low	606	638	610	632	619	624	673	694½	718½	776	908	913½	606
1978	High	807½	670	598	589	581½	650	630½	619	596	747½	746	745	807½
	Low	670	580	520	522½	532½	573	591½	565	566	593	647½	693	520
1979	High	691	639	673½	697	753	736	727	733	805½	792	775½	738½	805½
	Low	620¼	606	606	646½	674	669	681	685	723	747	714	705¼	606
1980	High	859	823	773	790	788	739½	726½	704	710½	669½	611		
	Low	749	730½	720	729½	695	702	686½	653	656½	582½	569½		

Source: Chicago Board of Trade

Soybean Stocks at U.S. Mills on First of Month In Millions of Bushels

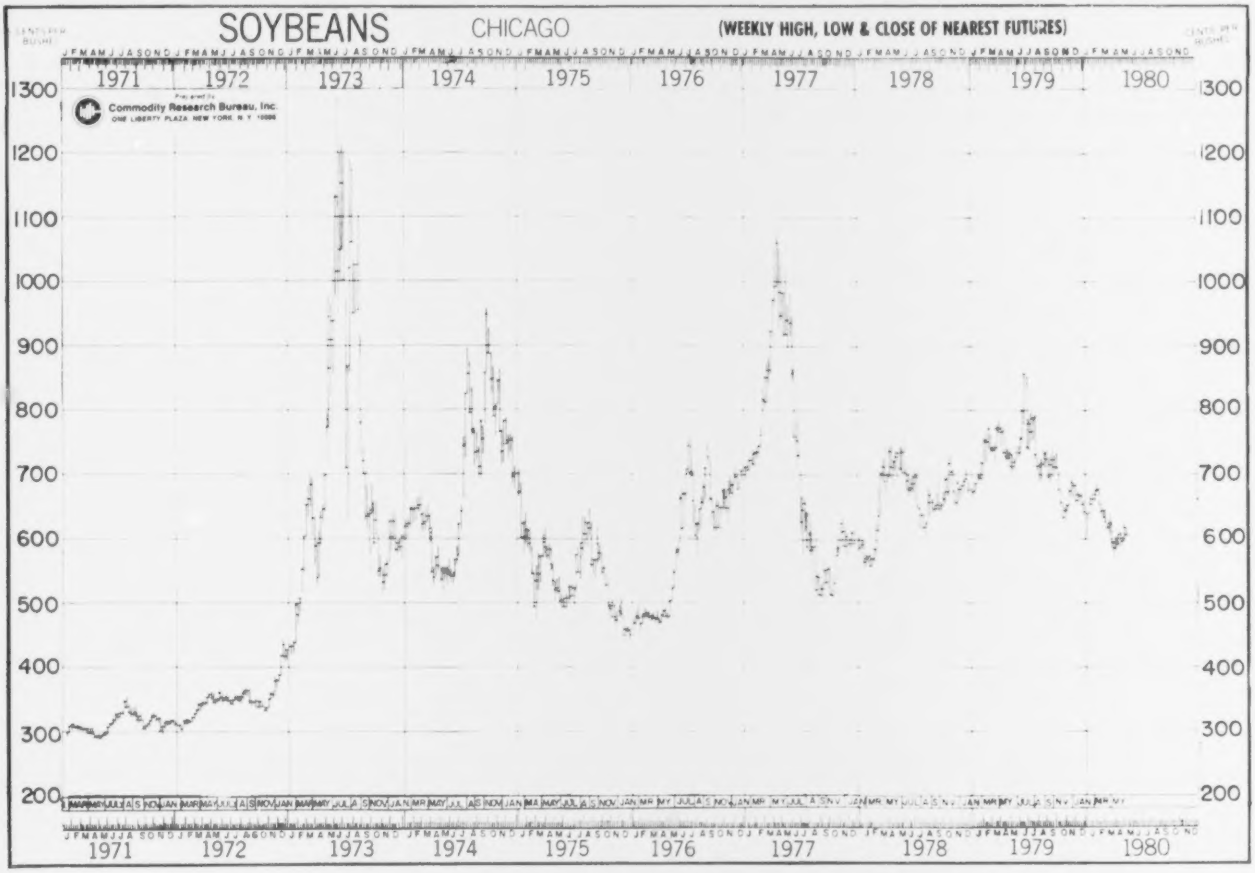
Crop Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1970–1	33.4	30.4	98.3	145.9	163.2	152.6	143.5	131.0	110.3	95.2	91.5	71.6
1971–2	42.3	33.5	119.1	146.9	127.1	116.1	125.1	124.5	114.3	97.7	90.9	67.4
1972–3	38.1	12.3	91.3	111.1	117.4	136.6	133.3	124.0	107.9	88.5	68.2	58.5
1973–4	30.7	13.5	89.5	125.8	115.5	119.0	123.0	112.3	95.5	81.5	66.5	57.0
1974–5	18.0	14.3	51.6	55.4	48.1	83.2	79.2	31.0	55.4	44.3	37.7	35.4
1975–6	27.4	14.2	116.6	137.2	131.5	121.1	109.8	101.3	92.8	79.4	80.5	66.3
1976–7	48.7	63.0	127.5	159.8	142.6	147.5	146.5	139.7	126.8	108.7		50.9
1977–8	23.4	20.3	101.5	123.9	113.0	94.4	87.3	102.8	90.2	76.3	54.5	44.6
1978–9	37.9	31.9	137.3									
1979–0	37.5	166.5	184.5	163.3			145.1					

Source: Economic Research Service, U.S.D.A.

Soybean Exports from the United States In Millions of Bushels

Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Total
1966–7	5.5	29.4	40.6	29.8	21.9	20.4	17.5	21.7	21.8	20.0	16.8	16.2	261.6
1967–8	10.3	29.7	39.9	27.2	21.8	18.8	24.1	21.6	20.1	18.7	17.1	17.3	266.6
1968–9	13.9	32.8	50.0	38.5	1.2	11.4	36.6	34.3	23.8	14.0	18.2	12.1	286.8
1969–0	13.3	52.5	53.7	39.9	28.7	31.6	39.2	41.2	37.1	38.5	25.2	31.6	432.6
1970–1	29.6	44.0	45.3	46.9	35.1	33.0	35.1	32.8	30.2	35.6	34.4	31.3	433.8
1971–2	29.2	29.4	47.4	50.3	42.4	35.5	31.3	37.3	31.7	31.1	26.3	24.9	416.8
1972–3	15.0	54.3	61.2	49.7	47.1	54.7	59.1	45.5	41.0	26.5	14.2	11.0	479.4
1973–4	7.5	46.6	74.4	58.0	48.3	56.4	57.9	62.0	43.5	36.1	27.1	21.2	539.1
1974–5	22.9	32.2	63.2	41.4	50.0	33.3	38.4	35.8	25.1	14.0	31.0	33.4	420.7
1975–6	24.3	62.7	61.5	49.6	51.8	52.2	52.3	50.5	49.5	47.2	29.2	24.3	555.1
1976–7[1]	22.2	60.1	67.4	56.7	50.9	59.9	58.4	57.0	55.1	31.0	27.2	18.1	564.1
1977–8[1]	15.0	77.6	87.7	57.0	52.6	54.4	66.6	72.7	79.3	63.4	34.7	39.3	700.5
1978–9[1]	38.0	87.6	101.7	70.6	77.0	53.2	83.5	67.7	47.1	41.0	32.7	39.7	739.7
1979–0[1]	41.6	88.9	118.1	78.3	1.4	73.0							

[1] **Preliminary.** *Source: Bureau of the Census*



Volume of Trading in Soybean Futures at the Chicago Board of Trade[1] In Millions of Bushels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	793.1	429.7	478.6	312.6	310.6	462.4	409.1	428.4	449.0	635.6	493.9	322.2	5,525.2
1968	432.1	275.3	283.6	311.0	302.5	408.1	465.6	447.8	400.4	676.0	435.4	280.5	4,718.3
1969	355.5	306.9	320.6	360.1	329.2	286.1	341.0	261.9	482.2	983.0	604.6	373.5	5,004.6
1970	485.9	412.8	394.1	497.7	389.1	1,132	1,485	874.5	722.9	1,470	1,185	1,107	10,156
1971	1,266	837.0	903.2	934.9	1,039	1,440	1,548	1,384	1,384	1,925	1,678	1,226	15,565
1972	1,441	1,371	2,133	2,086	1,732	1,543	1,398	1,665	1,150	1,559	2,039	2,100	20,217
1973	2,150	1,344	1,387	1,241	1,345	871	757	879	577	992	1,178	993	13,712
1974	1,229	1,045	1,224	1,187	1,234	1,194	1,103	1,122	885	1,368	892	1,173	13,564
1975	1,409	1,204	1,473	1,497	1,481	1,400	2,117	1,893	1,621	2,204	1,759	1,508	19,567
1976	1,533	1,298	1,215	1,456	2,410	3,414	2,638	2,333	2,480	3,023	2,893	2,678	27,371
1977	3,483	2,564	5,062	4,707	3,550	4,012	2,468	2,312	2,378	2,734	3,897	2,813	39,981
1978	2,978	2,224	5,057	4,121	3,820	3,742	2,662	2,965	2,561	4,754	3,992	3,511	42,386
1979[2]	3,701	5,038	4,123	3,856	3,686	5,485	4,184	2,843	2,763	3,946	3,115	2,674	45,414
1980[2]	3,222	2,916	2,806										
1981													

[1] Trading on this market represents approximately 98% to 99% of all trading in Soybeans. [2] Preliminary.

Source: Commodity Futures Trading Commission

SOYBEANS

Soybeans Under Price Support Through the End of Month (Cumulative Totals from Current Season's Crop) In Thousands of Bushels

Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Total
1967–8	86	47,530	105,947	158,320	183,392	189,562	192,971	194,395	195,252	197,000	199,100	199,400	201,454
1968–9	132	61,934	187,139	256,123	307,567	323,314	334,089	334,089	334,678	335,324	336,420	336,800	340,000
1969–0	44	30,274	97,992	137,766	172,395	175,913	178,173	179,366	179,540	179,609	179,598	179,600	180,000
1970–1	128	23,449	64,494	114,092	140,103	143,355	145,300	146,127	146,406	146,463	146,462	146,462	147,000
1971–2	992	41,831	101,163	140,421	163,979	167,187	168,044	168,221	168,271	168,297	—	—	168,278
1972–3	58	21,067	56,609	75,190	86,803	89,338	90,368	90,546	90,561	90,560	—	—	
1973–4	171	11,009	75,213	101,310	120,240	122,752	123,613	124,067	124,170	124,188	—	—	
1974–5	121	3,868	13,186	19,410	22,426	23,275	23,828	34,217	34,543	34,574	—	—	
1975–6			No Program										
1976–7	270	3,398	8,471	13,398	14,966	15,253	15,433	22,450	22,491	22,491	—	—	
1977–8	360	13,135	47,879	68,269	89,128	93,293	96,234	96,808	97,048	97,146	—	—	
1978–9	0	6,403	31,008	43,015	58,278	61,489	62,365	63,146	63,508	64,087	—	—	
1979–0	11	9,507	39,559	67,372	101,052								

Source: U.S. Department of Agriculture

Soybean Receipts at Primary Markets in the United States In Thousands of Bushels

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	3,356	3,275	6,790	5,286	5,016	8,445	8,341	7,516	3,157	21,784	12,913	5,330	91,209
1968	2,868	2,672	2,594	2,572	4,214	3,878	4,665	5,142	8,392	37,975	10,584	2,807	88,363
1969	2,651	3,776	3,622	3,808	3,671	4,366	5,859	6,988	9,633	36,390	22,796	8,058	111,618
1970	5,876	8,481	8,786	10,648	7,516	12,056	15,063	9,417	7,017	24,277	20,112	14,120	143,369
1971	6,672	6,048	8,164	5,508	6,116	13,053	12,438	6,075	5,237	29,723	13,580	2,358	114,972
1972	2,565	3,904	5,111	3,516	2,023	2,426	2,729	3,859	1,297	17,623	11,080	12,886	69,019
1973	13,106	8,779	6,776	4,267	5,717	3,331	3,354	2,059	1,077	14,946	13,330	3,976	80,718
1974	4,596	5,647	5,712	5,051	5,224	3,964	7,159	4,557	2,348	18,486	7,795	3,070	74,065
1975	1,969	1,390	1,865	1,823	1,843	2,665	4,505	3,066	2,131	25,944	5,988	2,049	55,238
1976	2,449	2,337	3,002	2,146	2,228	3,715	3,640	1,280	3,374	13,927	4,533	1,933	44,564
1977	3,335	3,337	4,736	4,075	6,824	781	152	1,980	1,208	11,960	7,986	4,023	50,397
1978	1,939	1,819	1,777	2,764	6,197	5,084	3,875	4,067	2,241	4,124	3,045	1,149	38,081

Source: Chicago Board of Trade

Soybeans Crushed (Factory Consumption) in the U.S. In Millions of Bushels—One Bushel = 60 Pounds

Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Total
1967–8	42.2	50.4	51.6	50.6	51.2	48.6	48.3	44.6	48.8	47.5	47.6	44.9	576.4
1968–9	38.2	54.7	55.6	52.2	49.9	45.0	54.6	50.4	54.5	50.6	52.1	48.2	605.9
1969–0	47.5	61.8	62.0	63.1	62.9	58.8	62.9	62.5	67.4	63.7	62.7	62.0	737.3
1970–1	53.3	66.8	65.9	68.1	67.7	60.1	63.6	63.8	63.8	61.1	62.4	63.6	760.1
1971–2	54.5	59.5	59.8	64.0	63.9	60.2	63.9	58.5	63.0	57.1	58.2	57.9	720.5
1972–3	52.2	66.8	70.7	69.2	70.6	64.8	64.4	58.2	61.7	52.2	44.5	46.5	721.8
1973–4	41.4	62.8	71.8	72.8	74.7	70.4	75.8	69.6	71.7	69.4	72.2	68.8	821.3
1974–5	53.6	61.6	60.8	60.2	63.1	54.1	61.0	57.5	53.0	53.1	59.2	64.0	701.3
1975–6	56.5	71.4	71.1	77.8	74.9	69.3	77.9	77.2	79.6	74.6	70.6	64.2	865.1
1976–7	68.8	72.9	73.4	72.7	72.2	71.6	74.4	67.1	61.2	56.2	50.6	49.1	790.2
1977–8[1]	51.9	75.8	85.3	86.6	85.3	75.4	86.5	80.1	82.6	72.4	70.8	73.9	926.7
1978–9[1]	71.4	89.3	89.6	96.4	90.6	82.2							519.5
1979–0[1]		95.8	101.4	104.4	106.6								

[1] Preliminary. *Source: Bureau of the Census*

Average Price Received by Farmers for Soybeans in the U.S. In Cents Per Bushel

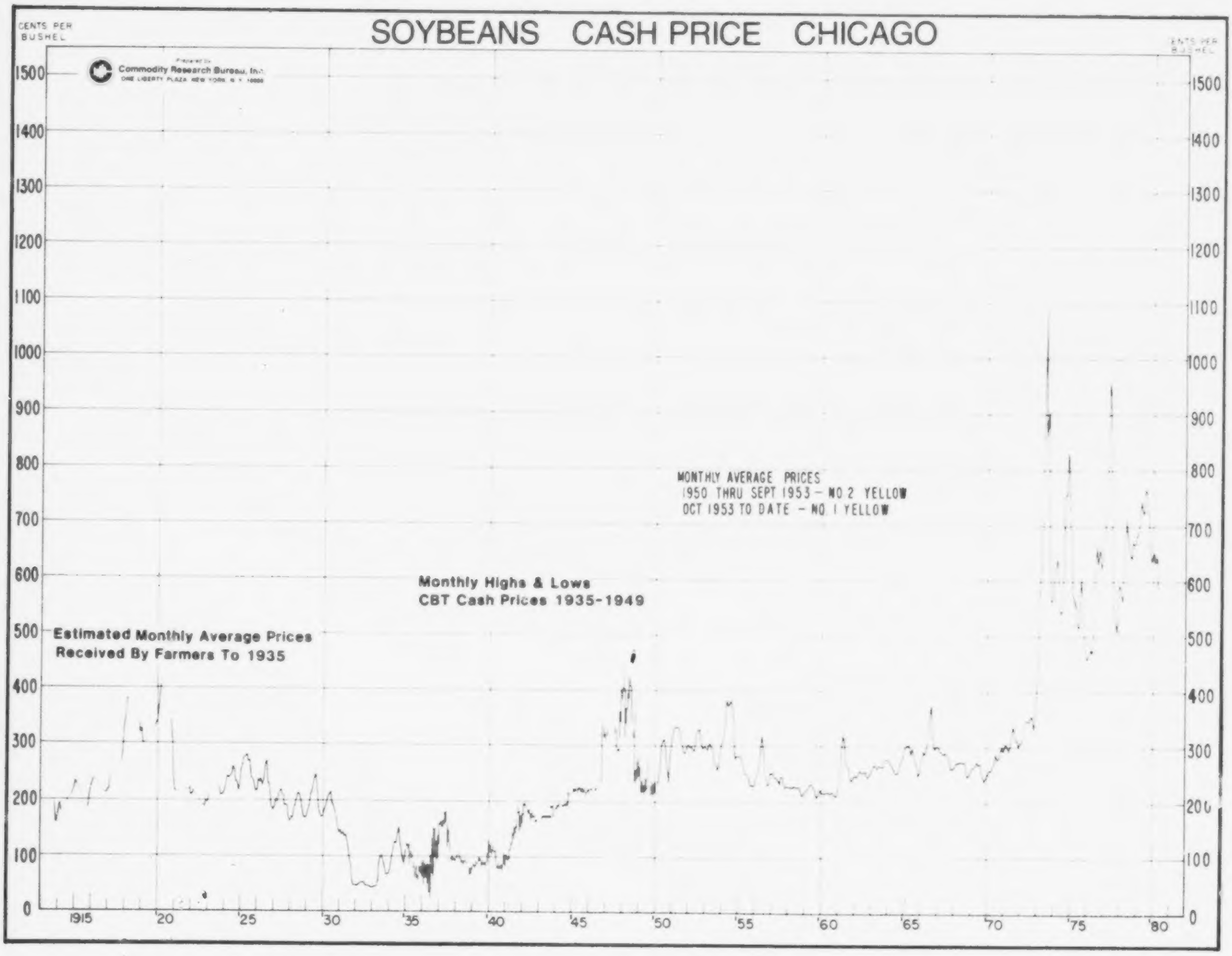
Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Average
1975–76	532	492	445	428	446	450	446	452	487	616	673	607	492
1976–77	665	590	611	656	681	706	783	905	921	821	660	542	732
1977–78	517	528	561	596	575	553	620	649	677	669	639	621	579
1978–79	619	626	639	649	658	699	716	706	706	736	736	707	
1979–0	681	635	630	627	639	620	594	550					

Source: Crop Reporting Board

Average Cash Price of No. 1 Yellow Soybeans at Chicago (Illinois Processor[1]) In Cents per Bushel

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
1967–8	260	261	264	269	273	271	271	274	271	271	272	261	269
1968–9	246	253	259	263	264	264	269	272	269	270	261	249	263
1969–0	238	242	247	255	259	258	264	270	271	289	279	281	263
1970–1	295	300	293	303	306	304	291	303	321	338	329	312	308
1971–2	312	300	308	30[illegible]	318	337	349	349	347	351	355	348	324
1972–3	333	364	413	446	580	624	652	894	1087	847	900	610	622
1973–4	562	557	592	617	635	629	559	547	551	711	776	764	612
1974–5[1]	830	754	723	638	569	560	555	523	516	560	602	557	632
1975–6	501	471	460	466	477	471	475	523	623	666	631	659	526
1976–7	622	655	686	706	726	825	960	942	825	640	549	516	721
1977–8	507	584	594	573	565	658	681	701	676	662	647	642	624
1978–9	672	668	681	689	728	745	727	721	768	764	728	704	716
1979–0	652	638	653	636	642	607	580						
1980–1													

[1] Illinois points—beginning Oct. 1974. *Source: Consumer & Marketing Service, U.S.D.A.*



Sugar

(See special study on page 24)

World sugar production prospects for the 1979/80 crop year ending August 31, 1980 deteriorated as the season progressed, and the USDA estimated production would fall to 85.4 million tonnes (metric tons), raw value, based on conditions in June 1980. The USDA estimated 1978/79 production at 90.9 million tonnes. The USSR's beet sugar crop was estimated at 7.4 million tonnes, and output in Thailand and India also was below normal. These developments more than offset a record beet sugar harvest by the European Economic Community.

Since the USDA projected world consumption during 1979/80 at 91.0 million tonnes, a drawdown of about 5.5 million tonnes was expected in world ending stocks. However projected stocks on September 1, 1980, still would represent about 29 percent of annual use.

U.S. beet sugar production for 1979/80 was estimated at 2.88 million tonnes, raw value, down 2 percent from 1978/79 output because of factory closings in Washington and other states. Domestic cane sugar output was estimated at 2.73 million tonnes, up 121,000 tonnes from the previous season.

U.S. Government Programs

On July 27, 1979, Secretary of Agriculture Bergland announced that the national average loan level for 1979 would be 13 cents a pound for raw cane sugar and 15.15 cents a pound for refined beet sugar. The rates provided average minimum support prices to farmers of $17 per net ton of average quality sugarcane and $22.46 per net ton of average quality sugar beets.

The U.S. import fee was 3.35 cents a pound during the first quarter of 1979. However, by October 24, the fee had been reduced to zero because of the surge in world sugar prices. It remained at zero during the first quarter of 1980, while the fee on imported refined sugar continued at the statutory minimum of 0.52 cent a pound.

The raw sugar import duty, which is separate from the import fee, was reduced by a presidential proclamation to the legal minimum of 0.625 cent a pound from 2.8125 cents, as of February 1, 1980.

International Sugar Agreement

On November 30, 1979, the U.S. Senate consented to ratification of the ISA. Enabling legislation for enactment of the provisions of the ISA requiring changes in U.S. law was signed by President Carter in April 1980. The economic provisions of the ISA, including collection of its stock-financing fee, were scheduled to go into effect on July 1, 1980.

The ISA world price for sugar began 1979 at 7.57 cents a pound, but prospects that 1979/80 consumption would exceed production turned prices firmer in the second half of 1979. Prices averaged 17.16 cents a pound in January and 22.75 cents in February 1980. This was well above the ISA price range of 11 to 21 cents a pound. Increases in ISA export quotas were triggered, and on January 11, 1980, the International Sugar Organization suspended export quotas completely, freeing member nations to export all of their sugar except for buffer stocks.

However, with world prices above 21 cents a pound through most of February and March 1980, the 2.5 million tonnes of ISA buffer stocks also were released for sale. But few countries appeared to have the sugar to take immediate advantage of the release. Only the European Economic Community, which is not a member of the ISA, had large supplies of surplus sugar. Cuba was reporting production problems. Increased consumption in Mexico probably will result in that nation becoming an importer in 1980. And Brazil's sugar production was being diverted in increasing amounts to alcohol production. Prices of imported petroleum products have become major factors in Brazil's sugar policy.

The ISO established basic export tonnages of 15,859,902 tonnes, raw value, for calendar year 1980 under a fall-back formula after failing to agree on revised quotas by the March 31, 1980, deadline. Export quotas are set as percentages of the basic export tonnages.

Futures Markets

Both world and domestic sugar futures are traded on the New York Coffee, Sugar and Cocoa Exchange. World raw and white sugar futures are traded on the London United Terminal Sugar Market.

World Production of Sugar (Centrifugal Sugar—Raw Value) In Thousands of Metric Tons[3]

Crop Year	Australia Cane	Brazil Cane	China (Mainland)	Cuba Cane	Hawaii Cane	India Cane	Indonesia Cane	Philippines Cane	Poland Beet	W. Germany	United States Beet	United States Cane	U.S.S.R. Beet	Mexico	France	World Total All
1969–0	2,440	5,063	*1969–70*	9.406	1,162	5.523	835	2,124	1,683	2.280	3,471	1,071	9,570	2.648	2.974	79,250
1970–1	2,702	5,642	*to*	6,530	1.286	4.963	800	2,270	1,659	2,264	3,321	1,253	9,904	2.729	2,972	77,739
1971–2	3,015	6,227	*1973–74*	4,837	1,119	4,222	750	2,061	1,887	2,584	3,512	1,206	8,813	2,778	3,530	77,818
1972–3	3,015	6,795	*Avg.*	5,787	1,129	5,040	981	2,673	2,016	2,690	3,663	1,620	8,984	3,053	3.290	83,247
1973–4[3]	2,592	6,959	*(2,065)*	5,800	944	4,949	950	2,643	1,817	2,500	2,918	1,253	9.568	2.805	3,255	80,488
1974–5	2,927	7,400	2,400	6,300	1,004	5.794	1,000	2,466	1,557	2,438	2,645	1,334	7,730	2,696	2,948	78,620
1975–6	2,988	6,200	2,311	6,200	953	5,464	1.030	2,875	1,860	2,540	3,646	1,657	7,700	2,698	3,239	81,679
1976–7	3,405	7,500	2,153	6,100	938	6,043	1,068	2,753	1,801	2,734	3,534	1,519	7,350	2,696	2,974	86,263
1977–8	3,322	8,863	2,465	7,200	934	8,217	1,125	2,397	1,819	3,076	2,820	1,497	8,825	3,029	4,268	92,479
1978–9[2]	2,965	7,758	2,680	7,000	1,002	7,343	1,159	2,347	1,736	2,998	2,945	1,441	9,000	3,058	4,065	90,869
1979–0[1]	2,975	6,950	2,575	6,500	962	6,524	1,325	2,383	1,587	2,930	2,631	1,387	8,500	3,100	4,174	87,662

[1] Estimated. [2] Preliminary. [3] Data prior to 1973–4 are in THOUSANDS OF SHORT TONS.
Source: Foreign Agricultural Service, U.S.D.A.

United States Sugar (Cane & Beet) Supply and Utilization In Thousands of Short Tons (Raw Value)

	Supply								Utilization						
	Production			Offshore Receipts									Domestic Disappearance		
														Military & Civilian	
Year	Cane	Beet	Total	Foreign	Territories	Total	Beginning Stocks	Total Supply	Total Use	Exports	Net Change in Invisible Stocks	Residual	Livestock Feed & Alcohol	Total	Per Capita
1968	2,588	3,039	5,627	5,130	504	5,634	2,941	14,202	11,159	79	291	51	82	10,656	99.2
1969	2,236	3,246	5,482	4.886	342	5,228	3,043	13.753	10,884	82	-273	57	68	10,950	101.0
1970	2,363	3,511	5,874	5,296	353	5,649	2,869	14,392	11,557	66	185	60	83	11,163	101.8
1971	2,386	3,429	5,815	5,587	144	5,731	2,835	14,381	11,558	89	–7	70	61	11,345	102.4
1972	2,481	3,534	6,015	5,459	149	5,608	2,823	14,446	11,623	50	-21	45	62	11,487	102.8
1973	2,708	3,353	6,061	5.329	79	5,408	2,823	14,292	11,646	26	91	69	31	11,429	101.5
1974	2,441	3,221	5.662	5,770	157	5,927	2,646	14,235	11,381	72	305	51	8	10.945	96.5
1975	2,827	3,473	6,300	3,882	96	3,978	2,854	13,132	10,276	216	-277	29	6	10,302	90.2
1976	2,795	4,003	6,798	4,658	203	4,861	2,856	14,515	11,017	76	-24	72	—	10,893	94.6
1977	2,666	3,423	6,089	6.138	102	6,240	3,498	15,827	11,336	22	201	14	—	11,099	95.7
1978[1]	2,535	3,067	5,602	4,683	52	4,735	4,491	14,828	11.074	16	57	108	4	10,899	93.1
1979[2]	2,731	3.141	5,872	5,000	100	5,100	3.754	14.726	10.948	15	147	25	—	10,761	91.3
1980															

[1] Preliminary. [2] Estimate. *Source: Agricultural Marketing Service, U.S.D.A.*

Sugar Cane for Sugar & Seed and Production of Cane Sugar and Molasses in the United States

			Production				Farm Value		Sugar Production			Molasses Made		
									Raw Value					
Year	Acreage Harvested 1,000 Acres	Yield of Cane per Acre Tons	for Sugar 1,000 Tons	for Seed 1,000 Tons	Total 1,000 Tons	Farm Price $ per Ton	of Cane used for Sugar 1,000 Dollars	of Cane used for Sugar & Seed 1,000 Dollars	Total 1,000 Tons	Per Ton of Cane Lbs.	Refined Basis 1,000 Tons	Blackstrap (80° Brix) 1,000 Gallons	Edible 1,000 Gallons	Total 1,000 Gallons
1968	606	41.0	24,025	800	24,825	9.37	119,435	125,198	2,447	204	2,286	150,057	2,466	152,589
1969	536	42.2	21,714	901	22,615	9.96	108,432	115,588	2,254	208	2,107	132,337	2,532	134,458
1970	584	41.1	23,055	941	23,996	10.50	132,341	139,999	2,416	210	2,258	138,676	2,121	141,193
1971	648	38.1	23,145	1,027	24,172	11.10	137,998	147,175	2,436	211	2,277	142,522	2,517	144,812
1972	702	40.4	27,239	1,093	28,332	11.70	201,639	211.736	2,740	201	2,561	178,263	2,290	180,553
1973	741	34.9	24,924	903	25,827	20.90	319,503	333,061	2,549	205	2,383	164,001	1,926	167,486
1974	734	33.8	23,721	1,091	25,140	48.50	710,094	755,839	2,512	212	2,347	152,682	1,559	156,355
1975	774	36.6	27,306	1,038	28,344	19.60	349,622	366,370	2.934	214	2,743	177,428	1,560	178,988
1976	747	37.6	26.919	1.201	28.120	13.70	243,703	257,242	2.724	202	2,545	179,180	1,550	180,730
1977	759	35.3	25,730	1,100	26.830	18.50	310,017	327,146	2 684	209	2.508			164,894
1978[1]	744	35.0	24,821	1,176	25,997	19.40	301,205	320,469	2,612	203	2,441			161,810
1979[1]	733	37.8	26,587	1,094	27,681				2,693		2,517			167,584
1980														

[1] Preliminary. *Source: Statistical Reporting Service, U.S.D.A.*

Sugar Beets, Beet Sugar, Pulp, & Molasses Produced from Sugar Beets in the U.S.

	Sugar Beets						Sugar Production		Pulp Production			
	Acreage											
Year of Harvest	Planted 1,000 Acres	Harv. 1,000 Acres	Yield Per Har. Acre Tons	Production 1,000 Tons	Price[1] Dollars	Farm Value $1,000	Refined Basis In Thousands of Short Tons	Equivalent "Raw Value"[2] In Thousands of Short Tons	Molasses Pulp In Thousands of Short Tons	Wet Pulp In Thousands of Short Tons	Dried Pulp In Thousands of Short Tons	Sugar Beet Act Payments $ Per Ton
1967	1,197	1,122	17.1	19,197	13.50	260,115	2,464	2,636	923	1,035	188	2.17
1968	1,476	1,410	18.0	25,363	13.80	350,207	3,255	3,483	1,292	1,248	251	2.16
1969	1,647	1,541	18.0	27,736	12.70	352,868	3,112	3,330	1,359	1,139	255	2.02
1970	1,478	1,413	18.7	26,378	14.80	391,567	3,179	3,401	1,331	1,164	220	2.07
1971	1,406	1,342	20.2	27,096	15.40	416,279	3,320	3,552				2.05
1972	1,420	1,329	21.4	28,410	16.00	455,830	3,387	3,624				2.00
1973	1,280	1,218	20.1	24,499	29.60	725,661	2,990	3,200				2.08
1974	1,252	1,213	18.2	22,123	46.80	1,035,567	2,725	2,916				2.06
1975	1,595	1,517	19.6	29,704	27.60	820,743	3,756	4,019				
1976	1,525	1,479	19.9	29,386	21.00	616,813	3,640	3,895				
1977	1,273	1,216	20.6	25,007	24.20	604,399	2,905	3,108				
1978[3]	1,304	1,269	20.3	25,725	25.20	648,221	3,074	3,289				
1979[3]	1,161	1,120	19.6	21,996			2,695	2,884				
1980[3]	1,100											

[1] Includes support payments, but excludes Sugar beet payments. [2] Refined sugar multiplied by factor of 1.07. [3] Preliminary.
Source: Statistical Reporting Service, U.S.D.A.

SUGAR

Sugar, Refined—Deliveries by Type or Product of Buyer in the U.S. In Thousands of Cwt.

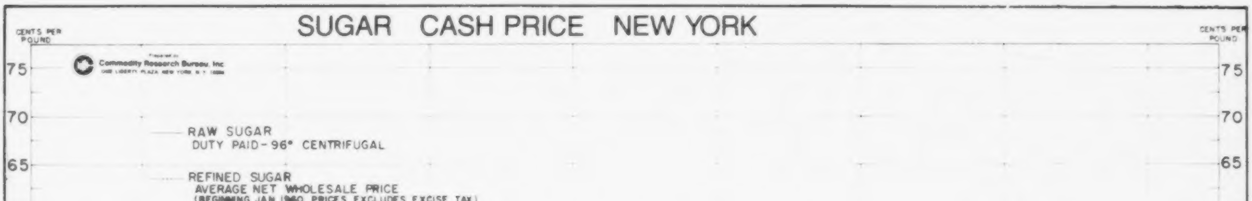
Year	Bakery & Allied Pdts.[2]	Beverages	Confectionery[3]	Hotels Restaurants[4]	Ice Cream & Dairy Products	Jams, Jellies, Preserves[5]	Multiple & Other Food Uses	Non-Food Uses	Retail Grocers[6]	Wholesale Grocers[7]	All Other[8]	Total Deliveries	In Consumer Size Pckgs.	To Industrial Users
1971	27,125	47,287	21,046	1,588	11,125	20,575	9,917	1,861	26,580	43,197	1,903	212,204	52,199	138,935
1972	28,987	48,740	21,139	1,693	11,985	19,739	10,158	1,811	26,324	42,057	1,757	214,390	51,136	65,807
1973	29,074	49,387	20,704	1,879	11,901	20,496	10,040	2,221	26,325	41,269	2,125	215,420	50,603	68,338
1974	28,856	46,992	20,374	1,811	11,404	18,981	10,278	2,557	27,072	40,043	2,421	210,788	51,617	66,396
1975[1]	23,757	40,390	15,334	1,423	9,755	14,045	9,359	1,679	24,626	37,089	1,640	185,453	48,188	59,299
1976[1]	24,571	43,263	17,332	1,275	10,353	13,644	9,793	1,954	25,404	40,684	2,595	200,868	48,790	64,455
1977[1]	26,641	47,918	18,391	1,391	10,914	14,201	10,458	2,048	25,235	40,668	2,901	207,046	49,196	70,600
1978[1]	25,657	51,540	17,895	2,078	10,380	13,444	8,142	3,167	23,363	39,259	3,140	200,540	45,342	67,352
1979[1]	24,718	47,069	17,621	2,038	9,198	12,887	9,294	2,463	24,284	39,624	3,358	198,689	49,192	67,156

[1] Preliminary. [2] Cereals and cereal products. [3] And related products. [4] And institutions. [5] Canned, bottled & frozen foods. [6] Chain stores, supermarkets. [7] Jobbers, sugar dealers. [8] Including Gov't. agencies. *Source: Stat. Rep. Serv., U.S.D.A.*

Average Raw Cane Sugar (96°) Prices[1] Duty Paid C.I.F. New York In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1972	9.10	9.02	9.16	8.89	8.76	8.77	9.17	9.33	9.39	9.32	9.03	9.19	9.09
1973	9.38	9.14	9.45	9.65	10.06	10.25	10.25	10.75	10.97	11.15	11.10	11.34	10.29
1974	12.63	17.09	18.11	19.25	23.05	26.30	28.35	32.60	33.71	38.83	57.30	46.74	29.50
1975	37.5	38.8	30.0	28.2	19.5	14.8	19.4	22.5	17.5	15.2	15.5	15.6	22.9
1976	15.4	15.0	16.4	15.6	16.7	14.4	15.0	11.9	9.5	11.2	10.6	10.2	13.5
1977	10.5	11.3	11.7	12.4	11.2	10.0	9.5	11.0	10.8	9.8	11.4	11.4	10.9
1978	11.4	11.4	11.4	11.4	11.4	11.4	11.4	13.5	14.4	15.0	14.2	14.5	14.3
1979	13.8	15.0	15.3	13.9	14.1	14.6	15.7	15.4	15.7	15.9	16.2	18.0	15.3
1980	18.9	27.2	20.0										

[1] Domestic sugar at N.Y., duty paid. *Source: N.Y. Coffee & Sugar Exchange*



World Stocks of Centrifugal Sugar at Start of Grinding Season In Thousand Metric Tons[2] (Raw Value)

Sugar-Making Season	Australia June 1	Brazil June 1	France Oct. 1	W. Germany Oct. 1	India Nov. 1	Italy Aug. 1	Japan Oct. 1	Mexico Nov. 1	Netherlands Oct. 1	Philippines Oct. 1	Sweden Aug. 1	Iran Oct. 1	United Kingdom Sept. 1	U.S. & Ins. Areas Oct. 1	Total
1971–2	475	1,430	1,021	861	1,554	263	493	486	43	251	86	550	543	1,450	12,190
1972–3	279	1,377	1,080	941	659	287	591	334	72	62	160	578	841	1,204	11,136
1973–4[3]	253	1,249	980	854	598	260	536	303	65	56	145	524	763	1,092	10,101
1974-5	408	791	143	757	657	357	259	327	50	152	157	385	629	1,135	8,368
1975–6	155	1,591	269	137	843	500	267	547	96	405	139	191	208	2,444	9,902
1976–7	328	1,746	174	165	737	337	98	642	139	744	138	207	139	2,399	10,574
1977–8	533	1,286	259	365	818	509	157	282	150	1,677	126	283	251	2,718	12,661
1978–9[1]	536	2,861	606	556	1,265	878	442	125	122	1,427	108	264	751	3,259	17,741

[1] Preliminary. [2] Data prior to 1973–74 are in THOUSANDS OF SHORT TONS. *Source: Foreign Agricultural Service, U.S.D.A.*

Sugar Stocks of Primary Distributors in the U.S. at Beginning of Month In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1970	2,796	2,858	2,827	2,671	2,636	2,424	2,104	1,726	1,384	1,046	1,414	2,202
1971	2,792	3,003	2,943	2,701	2,660	2,524	2,157	1,932	1,629	1,450	1,582	2,134
1972	2,687	3,008	3,059	2,898	2,874	2,672	2,343	2,032	1,532	1,204	1,638	2,217
1973	2,710	2,941	3,038	2,777	2,831	2,604	2,291	2,040	1,454	979	1,251	1,902
1974	2,583	2,488	2 509	2,493	2,174	2,034	1,949	1,613	1,200	950	1,202	1,822
1975	2,800	3,067	2,970	2,836	2,521	2,299	1,946	1,275	1,032	958	1,415	2,088
1976	2,731	3,171	3,201	2,933	2,778	2,569	2,314	2,038	1,689	1,324	1,660	2,504
1977[1]	3,324	3,624	3,758	3,430	3,302	3,191	2,782	2,424	2,019	1,951	2,259	3,009
1978[1]	4,349	4,352	4,104	3,850	3,451	3,326	3,059	2,729	2,264	2,054	2,324	3,084
1979[1]	3,621	3,927	4,034	3,662	3,644	3,559	3,280	2,950	2,220	1,977	2,296	2,962
1980[1]	3,494	3,606	3,443									

[1] Preliminary. *Source: Commodity Stabilization Service, Sugar Division*

United States Production & Imports of Edible Sirups In Thousands of Gallons

	Production[2]								Imports				
	Sirups												
Year	Corn	Cane	Sorghum	Maple	Refiners'	Edible Molasses	Honey	Total	Maple Sirup	Edib. Molas. & Cane Sirup	Honey	Shipm. From Terr.	Total
1971	304,000	—	—	962	1,883	2,517	16,674	326,036	577	2,470	967	—	4,014
1972	387,880	—	—	1,099	2,077	2,290	18,081	411,427	710	1,694	3,291	—	5,695
1973	451,264	—	—	857	2,309	1,926	20,072	476,428	803	2,935	900	—	4,638
1974	498,313	—	—	1,087	2,564	1,559	15,632	519,155	801	2,508	2,196	—	5,505
1975	561,215	—	—	1,207	2,482	2,114	16,717	583,735	607	2,483	3,917	—	7,007
1976	615,498	—	—	927	2,403	2,574	16,756	638,158	886	3,188	5,608	—	9,682
1977	695,196	—	—	1,221	2,197	2,538	15,076	716,228	867	1,773	5,396	—	8,036
1978[1]	751,809	—	—	1,154	2,571	2,750	19,452	777,736	811	2,077	4,727	—	7,615

[1] Preliminary. [2] Production of cane sirup, sorghum sirup, & edible molasses is of the fall of the preceding year. *Source: Agricultural Marketing Service, U.S.D.A.*

U.S. Exports & Domestic Consumption of Edible Sirups, Corn Sugar & Sugar In Thousands of Gallons

				Indicated Domestic Consumption					Per Capita Consumption in Pounds				Total Sugar Consumption Mil. Tons
	Exports			Sirups									
Year	Corn Sirup	Honey	Total	Corn	Maple	Cane & Refin. & Edib. Mol.	Honey	Total	Corn Sweeteners[3]	Corn Sugar	Saccharin	Sugar[2]	
1970	1,324	688	2,012	290,676	2,066	5,981	18,797	317,520	19.3	5.0	5.8	101.8	11.2
1971	1,324	640	1,964	302,676	1,539	6,870	17,001	328,086	20.9	5.0	5.1	102.4	11.3
1972	1,205	346	1,551	386,675	1,809	6,061	21,026	415,571	21.3	4.8	5.1	102.8	11.5
1973	1,377	1,484	2,861	449,887	1,660	7,170	19,488	478,205	23.6	5.2	5.1	101.5	11.4
1974	1,736	386	2,122	496,577	1,888	6,631	17,442	522,538	25.3	5.3	5.9	96.5	10.9
1975	1,070	337	1,407	560,145	1,814	7,079	20,297	589,335	27.8	5.5	6.2	90.2	10.3
1976	1,674	396	2,070	613,824	1,813	8,165	21,968	645,770	30.0	5.5	6.1	94.6	10.9
1977	1,543	466	2,009	693,653	2,088	6,508	20,006	722,255	32.0	5.5	6.6	95.7	11.1
1978[1]	1,694	679	2,373	750,115	1,965	7,398	23,500	782,978	34.1	5.5	6.9	93.1	10.9
1979[1]									37.7		7.0	91.3	10.8

[1] Preliminary. [2] Refined cane & beet sugar. [3] Corn Sirup & Dextrose. *Source: Agricultural Marketing Service, U.S.D.A.*

SUGAR

Sugar Deliveries and Stocks in the United States In Thousands of Short Tons, Raw Value

	Deliveries by Primary Distributors							Stocks (January 1)					
Year	Cane[1] Sugar Refineries	Beet Sugar Factories	Importers of Direct Consumption Sugar	Cane Sugar Mills[1]	Total	Sales of Refined Sugar For Export	Total Domestic Consumption[2]	Cane Sugar Refineries	Beet Sugar Factories	Importers of Direct-Consumption	Refiners' Raws	Mainland Cane Mills	Total
1970	7,158	3,336	144	57	10,695	66	11,163	251	1,321	9	695	412	2,799
1971	7,306	3,213	111	51	10,681	89	11,345	237	1,266	4	804	376	2,792
1972	7,326	3,281	87	70	10,764	50	11,487	255	1,258	1	972	116	2,710
1973	7,334	3,282	75	81	10.772	26	11,429	233	1,280	3	998	100	2,583
1974	7,590	2,826	56	54	10,526	28	10,946	257	1,130	1	886	211	2,799
1975	6.237	3,068	83	65	9,453	147	9,304	276	1,314	1	428	458	2,731
1976	6,534	3,572	76	15	10,197	68	10,895	231	1,490	0	776	509	3,341
1977	7,026	3,208	172	17	10,495	35	11,100	261	1,661	0	1,678	556	4,349
1978[3]	7,476	3,198	193	19	10,900	48	10,849	286	1,560	85	964	641	3,621
1979[3]	7,474	3,191	90	19	10,788	73	10,714	262	1.205	—	564	1,032	3,494

[1] Sugar for direct consumption only. [2] Includes deliveries for U.S. military forces at home and abroad. [3] Preliminary.
Source: Department of Agriculture

Centrifugal Sugar (Raw Value) Imported into Selected Countries In Thousands of Metric Tons

Year	Algeria	Canada	Chile	France	W. Germany	Israel	Japan	Malaysia	Morocco	Iran	Un. Kingdom	China	United States	U.S.S.R.	World Total[2]
1969	200	946	294	106	181	118	2,228	361	253		2,149		4,432	1,335	18,569
1970	207	949	100	60	193	118	2,600	380	273		1,839	530	4,711	3,005	21,372
1971	261	899	195	108	177	139	2,427	330	246		2,134	464	4,821	1,536	20,708
1972	230	908	233	128	125	161	2,777	356	222		2,163	749	4,719	1,924	20,981
1973	278	965	297	100	140	80	2,372	351	278	297	2,050	736	4,781	2,631	22,231
1974	277	901	174	158	100	157	2,771	352	278	226	2,269	411	5,238	1,856	21,860
1975	360	998	178	182	196	150	2,473	345	268	626	2,346	241	3,490	3,237	20,508
1976	354	895	82	136	169	131	2,439	336	263	277	2,101	627	4,136	3,760	21,388
1977[1]	491	1,064	232	110	108	153	2,708	403	372	374	1,870	1,676	5,290	4,776	25,858

[1] Preliminary. [2] Excludes U.S. trade with Territories. *Source: Foreign Agricultural Service, U.S.D.A.*

Centrifugal Sugar (Raw Value) Exported from Selected Countries In Thousands of Metric Tons

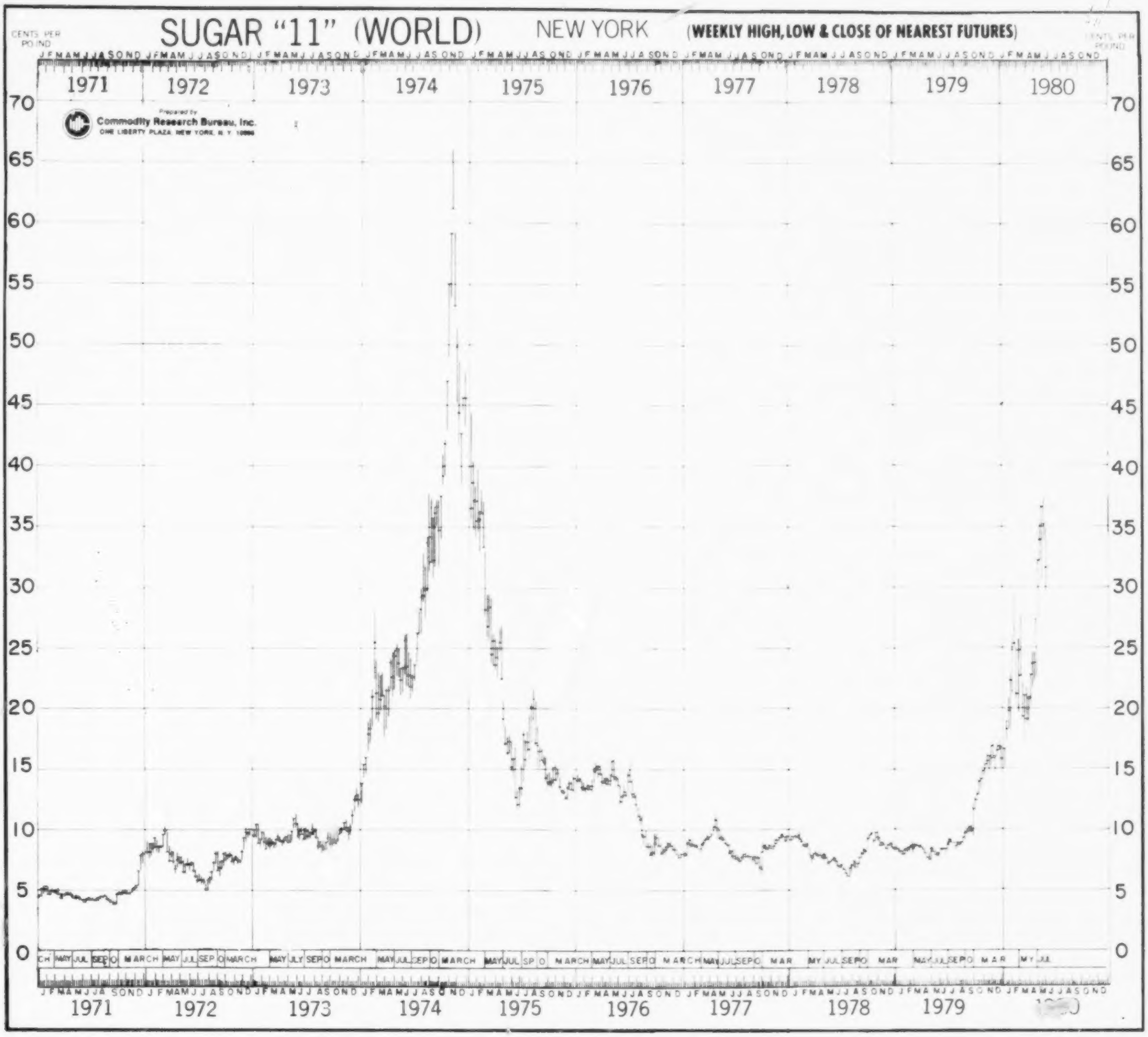
Year	Australia	Brazil	Czechoslovakia	Cuba	Dom. Republic	France	Thailand	Mauritius	Peru	Philippines	South Africa	Taiwan	Un. Kingdom	U.S.S.R.	World Total[2]
1968	1,624	1,026	312	4,613	610	718	*1968–*	596	467	985		670	224	1,461	20,511
1969	2,064	1,099	300	4,799	618	582	*72*	596	268	1,020		531	203	1,388	19,421
1970	1,389	1,126	350	6,906	793	900	*Avg.*	575	435	1,237	790	410	203	1,517	22,064
1971	1,762	1,191	350	5,511	1,011	1,168	*(133)*	489	432	1,422	828	523	284	1,401	21,455
1972	2,010	2,054	229	4,140	1,099	1,425		670	481	1,240	1,168	489	330	64	21,714
1973	2,086	2,820	225	4,797	1,031	1,653		701	407	1,474	892	487	299	46	22,839
1974	1,759	2,357	189	5,491	1,055	1,202		726	462	1,542	779	553	328	103	23,160
1975	1,969	1,746	227	5,744	975	994		498	422	972	809	409	385	59	21,112
1976	2,015	1,253	71	5,764	977	1,422	1,124	584	284	1,456	860	519	285	79	22,002
1977[1]	2,530	2,487	171	6,238	1,082	1,816	1,682	674	412	2,419	1,384	599	178	87	28,163

[1] Preliminary. [2] Excludes U.S. trade with Territories. *Source: Agricultural Marketing Service, U.S.D.A.*

Average Wholesale Refined Cane Sugar Prices at New York (Excludes Excise Tax) In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1970	11.1	10.9	10.9	10.9	10.9	11.3	11.3	11.3	11.4	11.4	11.4	11.4	11.2
1971	11.4	11.4	11.7	11.6	11.6	11.6	11.8	11.8	11.8	11.8	11.8	11.8	11.7
1972	11.8	12.2	12.2	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.2	12.2	12.3
1973	12.2	13.2	13.2	13.3	12.7	12.7	13.2	13.7	13.7	14.1	15.0	12.8	13.3
1974	14.3	16.1	20.0	20.0	24.8	28.5	31.9	33.8	39.5	40.8	54.9	59.2	32.0
1975	51.8	47.9	41.0	36.1	31.9	25.9	26.8	28.3	23.2	20.5	20.7	19.4	31.1
1976	20.9	20.3	22.1	21.0	22.2	19.7	20.4	17.1	15.2	17.2	16.0	15.6	19.0
1977	16.0	16.7	17.1	18.1	17.2	15.7	15.1	17.2	16.5	15.5	19.1	18.5	16.9
1978	18.7	20.1	19.3	20.1	20.0	19.8	19.1	20.5	21.3	22.3	21.4	22.0	20.4
1979	22.3	21.9	22.0	22.2	22.0	22.5	22.6	23.2	22.9	22.9	23.4	26.1	22.8
1980	25.0	36.4	29.5										

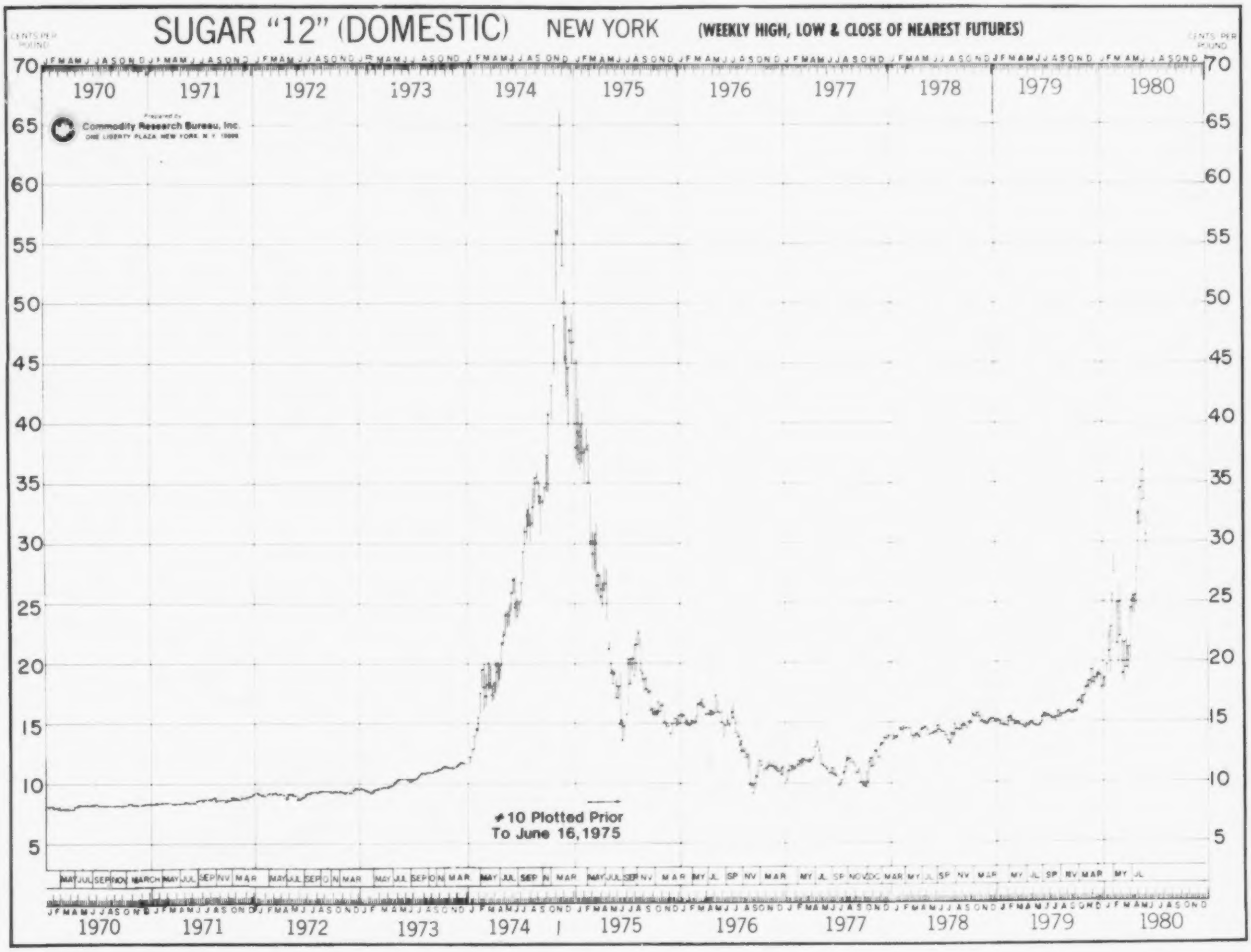
Source: Sugar Division, Commodity Stabilization Service



Average Refined Cane Sugar[1] (Wholesale)—Northeast In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	2.95	3.23	3.70	3.76	3.78	3.95	3.72	3.18	3.10	3.12	3.08	2.86	3.37
1970	3.12	3.23	3.44	3.62	3.75	3.82	3.86	3.89	3.93	3.99	4.18	4.16	3.75
1971	4.73	4.83	4.71	4.61	4.35	4.14	4.20	4.37	3.99	4.18	4.20	5.95	4.52
1972	8.25	8.62	8.73	7.29	7.01	6.58	5.58	6.28	7.04	7.42	7.25	9.08	7.43
1973	9.40	9.06	8.89	9.06	9.67	9.77	9.81	9.09	9.01	9.56	10.14	11.83	9.61
1974	15.32	21.28	21.27	21.77	23.65	23.67	25.40	31.45	34.35	39.63	57.17	44.97	29.99
1975	38.32	33.72	26.50	24.06	17.38	13.83	17.06	18.73	15.45	14.09	13.40	13.29	20.49
1976	14.04	13.52	14.92	14.06	14.58	12.99	13.21	9.99	8.16	8.03	7.91	7.54	11.58
1977	16.70	16.94	17.45	18.52	17.52	16.40	16.13	17.38	16.57	16.35	18.50	18.88	17.28
1978	19.85	20.54	20.03	20.18	20.31	20.13	19.90	20.70	21.83	22.65	22.05	22.27	20.87
1979	22.27	22.44	22.54	22.35	22.53	22.71	22.96	23.79	23.50	23.34	23.48	26.47	23.20
1980	27.51	35.00	29.48										

[1] Prices are those under No. 8 contract which is for bagged sugar f.o.b. and stowed at Greater Caribbean ports (including Brazil) (No. 11 beginning Jan. 1971, bulk sugar.) *Source: Agricultural Stabilization and Conservation Service, U.S.D.A.*



United States Deliveries[1] of All Sugar by Primary Distributors In Thousands of Short Tons, Raw Value

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	674	683	873	824	880	1,053	891	1,048	1,051	862	829	848	10,516
1968	763	752	841	834	943	953	1,028	1,117	1,029	932	821	1,077	11,089
1969	704	620	919	834	933	976	1,019	1,058	1,077	928	806	929	10,804
1970	827	795	944	880	948	1,049	1,023	1,089	1,093	932	833	1,048	11,459
1971	727	718	1,026	860	894	1,087	1,034	1,121	1,123	947	903	997	11,439
1972	823	727	1,058	811	978	1,096	1,001	1,167	1,106	865	855	1,039	11,528
1973	787	740	1,058	892	988	1,063	1,027	1,203	1,026	942	890	919	11,538
1974	959	867	924	901	1,040	990	1,060	1,135	1,003	1,045	879	469	11,273
1975	514	552	693	832	870	961	1,205	1,005	936	916	767	877	10,127
1976	769	778	980	881	928	994	986	1,038	1,055	858	827	831	10,926
1977[2]	832	764	1,024	898	878	1,030	976	1,130	1,005	914	953	836	11,242
1978[2]	766	775	930	864	891	1,033	905	1,122	1,020	894	853	840	10,900
1979[2]	842	777	965	813	894	949	927	1,107	861	931	881	841	10,788
1980[2]	817												

[1] Includes for domestic consumption and for export. [2] Preliminary. *Source: Department of Agriculture*

Sulfur

U.S. sulfur demand exceeded domestic output in 1979. Industrial demand increased 4% and the demand for sulfur in fertilizer manufacturing increased about 5%. Similar conditions prevailed in the rest of the world. U.S. production, imports, shipments, and exports all increased from 1978 levels whereas producers' stocks decreased. For the third year, the U.S. showed a net import reliance.

The domestic production of sulfur in all forms in 1979 was up 5 percent from 1978. Apparent domestic consumption of all forms in 1979 was 6 percent above 1978.

Price levels for elemental sulfur were 27% higher than in 1978.

World Production of Elemental Sulfur (Native & Other Elemental [All Forms]) In Thousands of Long Tons

Year	Argentina	Spain	Chile	France[3]	West Germany	Canada	Italy	Japan	Mexico	Poland	U.S.S.R.	Israel	Turkey	United States	World Total
1969	34		97	1,714	127	3,814	122	343	1,689	1,950	1,574	8	21	8,560	20,785
1970	39		107	1,708	173	4,369	141	337	1,359	2,641	1,574	8	26	8,539	22,162
1971	38		105	1,773	181	4,720	144	403	1,161	2,670	3,642	10	23	8,620	24,792
1972	42		77	1,703	216	6,839	164	491	929	2,881	3,838	10	21	9,240	28,209
1973	35	1,207	30	1,826	538	7,998	1,151	2,723	1,646	3,741	7,520	10	66	10,921	47,437
1974	47	1,393	55	2,068	1,284	7,772	776	2,765	2,312	4,326	7,770	8	98	11,419	50,345
1975	32	1,349	47	1,962	1,262	7,417	692	2,450	2,181	5,001	7,854	10	90	11,259	49,397
1976	38	1,179	46	1,937	1,341	7,107	610	2,606	2,190	5,124	8,996	10	127	10,707	49,697
1977[1]	39	1,223	57	2,126	1,576	7,229	691	2,781	1,906	5,010	9,389	10	99	10,558	50,649
1978[2]		1,200		2,200	2,200	7,300	700	2,800	1,900					11,175	54,000
1979[2]		1,200			2,200	7,000	700	2,800	2,000					11,700	54,500

[1] Preliminary. [2] Estimated. [3] Content of ore. *Source: Bureau of Mines*

Salient Statistics of Sulfur in the United States In Thousands of Metric[6] Tons of Sulfur Content

	Production of												
	Native Sulfur[2]												
		Mines											
Year	Frasch-Process Total	Louisiana	Texas	Recovered Elemental Brimstone	Pyrites (Includ. Coal Brasses)	By-product Sulfuric Acid[3]	Other Sulf. Acid Compounds	Production (All Forms)	Imports—Pyrites & Sulfur	Producers' Stocks Dec. 31[4]	Exports (Sulfur)	Apparent Consumption (All Forms)	Price $ Per Metric Ton Elem. Sulfur F.O.B. Mine Plant
1969	7,146	—	7,146	1,422	334	517	126	9,545	1,795	3,338	1,551	9,169	
1970	7,082	—	7,082	1,457	339	537	142	9,557	1,667	3,829	1,433	9,227	23.14
1971	7,025	—	7,025	1,595	316	518	126	9,530	1,429	4,120	1,536	9,173	17.47
1972	7,290	3,534	3,755	1,950	283	546	149	10,218	1,188	3,796	1,852	9,854	17.03
1973	7,605	3,311	4,294	2,416	212	600	88	10,921	1,222	3,927	1,776	10,235	17.84
1974	7,901	3,308	4,593	2,632	162	654	70	11,419	2,150	3,957	2,663	10,818	28.88
1975	7,211	3,070	4,141	2,969	237	767	75	11,259	1,897	5,126	1,352	10,603	45.63
1976	6,264	2,487	3,777	3,138	286	942	77	10,707	1,727	5,563	1,270	10,768	46.45
1977[1]	5,822	2,422	3,400	3,567	166	945	58	10,558	1,977	5,469	1,178	11,473	44.75
1978[6]	5,648			4,062				9,710	2,177	5,340	827	11,174	45.17
1979[5]	6,357			4,090				10,450	2,494	4,240	1,963	12,146	57.29

[1] Preliminary. [2] Or sulfur ore. [3] Basis 100%—produced at Cu, Zn, & Pb plants. [4] Frasch & recovered sulfur. [5] Estimates. [6] Data prior to 1978 are THOUSANDS OF LONG TONS. *Source: Bureau of Mines*

Sulfur Consumption & Foreign Trade of the United States In Thousands of Metric[5] Tons

	Apparent Consumption of Sulfur in All Forms[3]											Foreign Trade			
			Pyrites									Exports		Imports	
Year	Native Sulfur	Recovered Sulfur Sales	Sales	Imports	Total Pyrites	Smelter Acid Prod.	Other Prod.[2]	Total	Imports of Recovered Sulfur	Sales to Consumers of Native Sulfur	Imports of Native Sulfur	Quantity	Value Ths. $	Quantity	Value Ths. $
1969	5,734	1,408	334	120	454	517	126	9,169	930	6,540	745	1,551	57,783	1,675	57,222
1970	5,610	1,471	339	130	469	537	142	9,227	998	6,504	539	1,433	34,051	1,667	34,149
1971	5,651	1,582	316	130	446	518	126	9,173	850	6,738	449	1,536	28,863	1,429	25,419
1972	6,030	1,927	283	50	333	546	149	9,854	869	7,613	269	1,852	33,687	1,188	16,288
1973	5,964	2,451	212	—	212	600	88	10,235	920	7,438	302	1,776	35,791	1,222	14,871
1974	6,251	2,547	162	—	162	654	70	10,818	1,196	7,898	954	2,663	97,345	2,150	51,124
1975	5,749	2,902	237	—	237	767	75	10,603	930	6,077	967	1,352	71,801	1,897	70,848
1976	5,393	3,146	286	—	286	942	77	10,768	996	5,860	731	1,270	63,584	1,727	59,494
1977[1]	5,633	3,570	166	—	166	945	58	11,473	1,208	5,935	769	1,178	57,648	1,977	65,154
1978[5]								11,174				827		2,177	
1979[4]								12,146				1,963		2,494	

[1] Preliminary. [2] Includes hydrogen sulfide, liquid sulfur dioxide. [3] Crude sulfur equivalent. [4] Estimate. [5] Data prior to 1978 are in THOUSANDS OF LONG TONS. *Source: Bureau of Mines*

Sunflowerseed and Oil

Sunflower seeds have long ranked as a major world oilseed crop, but it was only in the 1974/75 crop year that significant U.S. production began. Since then, sunflower seed production has increased dramatically. The 1979/80 (September–August) crop was estimated at 3.5 million tonnes, up 90 percent from 1978/79. Most U.S. production is of oilseed varieties, although birdseed and confectionery varieties are also grown. The bulk of U.S. production is in North Dakota, Minnesota, and South Dakota. U.S. exports of sunflower seeds for 1979/80 were estimated at 2 million tonnes, an increase of over 40 percent from 1978/79.

World production in 1979/80 was estimated at 15.5 million tonnes, an increase of 21 percent over 1978/79. The big U.S. increase accounted for 61 percent of the world production gain. The U.S.S.R. is by far the largest producer, followed by the U.S., Argentina, Romania, and Bulgaria. Sunflower seed accounted for 8.7 percent of estimated world oilseed production in 1979/80 vs. 8.2 percent in 1978/79.

Sunflower seed is relatively high in oil content (40 percent oil, 55 percent meal) compared to other oilseeds (soybeans—18 percent oil, 80 percent meal) and therefore its meal content is relatively less important. In addition, sunmeal (including hulls) has a 28 percent protein content and dehulled sunmeal has a 42 percent protein content vs. the 44 and 48 percent protein content of soybean meals.

U.S. supply of sunflower seed for 1979/80 was estimated at a record 3.6 million tonnes, nearly double the 1978/79 supply. However, in contrast to previous years when almost the entire crop was utilized, the large expansion of the 1979 crop was estimated to result in a carryover of 0.9 million tonnes. This large carryover, along with large soybean supplies, depressed prices from $241 per tonne (Duluth, oil-type sunflower seeds) in September 1979 to a seasonal low of $200 per tonne in March 1980, about $100 below March 1979.

Sunflower oil prices were also sharply lower in early 1980 and only about a cent per pound higher than soybean oil. In previous years, sunflower oil commanded a premium of several cents over soybean oil. However, the U.S. sunflower crush was estimated at 550,000 tonnes in 1979/80 up nearly 90 percent from the year before. Increasing domestic demand for relatively highly polyunsaturated sunflower oil and competitive prices resulted in the record crush. Based on lower prices and the large carryover, the 1980/81 U.S. sunflower crop was expected to decline moderately.

Futures Market

Sunflower seed futures started trading on May 6, 1980 on the Minneapolis Grain Exchange.

Sunflowerseed Statistics in the United States

Crop Year	Acres Harvested Ths. Acres	Yield Per Harv. Acre Lbs.	Farm Price $ Metric Ton	Value of Production Mil. $	Supply: Production	Supply: Imports	Supply: Stocks Sept. 1	Supply: Total	Disappearance: Crushings	Disappearance: Exports	Disappearance: Non-Oil Usage	Disappearance: Seed	Disappearance: Residual	Disappearance: Total
					In Thousands of Metric Tons									
1975–6	481	1.13	238		544	2	—	546	180	273	91	2	-82	546
1976–7	425	1.17	243	94.2	499	2	—	501	35	337	103	3	11	478
1977–8[1]	959	1.40	224	280.4	1,330	3	23	1,356	219	942	113	5	175	1.279
1978–9[1]	1,192	1.54	237	413.5	1,839	7	77	1,923	292	1,366	125	10		1,793
1979–0	2,319	1.51	194	641.3	3,500	—	130	3,630	570	2,100	150	10		2,830

[1] Preliminary. *Source: Economics Services; U.S.D.A.*

Sunflowerseed Oil Statistics in the United States In Millions of Pounds

Crop Year Begin. Oct.	Supply: Stocks Oct. 1	Supply: Production	Supply: Total	Disappearance: Exports & Shipments	Disappearance: Domestic Disappearance	Disappearance: Total	Price $ per Metric Ton (Crude Mpls.)
1975–6	—	72	72	48	16	64	
1976–7	8	14	22	15	7	22	
1977–8	—	86	86	34	49	83	
1978–9[1]	3	120	123	40	78	118	728
1979–0[2]	7	218	225	50	150	200	600
1980–1[2]	25						

[1] Preliminary. [2] Estimate. *Source: Economics Services; U.S.D.A.*

World Production of Sunflowerseed In Millions of Metric Tons

Crop Year	Argentina	Canada	China	Egypt	Eastern Europe	Western Europe	USSR	United States	World Total
1977–8	1.60	.08	.23	.01	1.93	.52	5.90	1.33	12.88
1978–9[1]	1.35	.12	.28	.01	1.95	.59	5.33	1.84	12.66
1979–0[2]	1.45	.22	.38	.01	2.12	.71	5.30	3.49	15.13
1980–1									

[1] Estimate. [2] Projected. *Source: Foreign Agricultural Service, U.S.D.A.*

Tall Oil

Tall Oil—Supply & Distribution in the U.S. In Millions of Pounds

Year Beginning Oct. 1[3]	Supply			Disposition										
						Non Food Products								
	Production	Stocks Oct. 1[4]	Total Supply	Exports	To U.S. Territ.	Soap	Paint & Varnish	Linoleum & Oilcloth	Resins & Plastics	Other Drying Oils	Lubricants & Similar Oils	Fatty Acids	Other	Total Nonfood Products
1967	1,211	247	1,458	117	—	8	50	19	—	38	9	1,167	17	1,309
1968	1,239	172	1,411	97	—	9	52	15	1	41	10	1,144	16	1,288
1969	1,284	184	1,468	125	—	4	41	16	—	31	10	1,154	12	1,269
1970[3]	1,271	140	1,411	145	.2	3	42	—	—	32	8	1,023	41	1,118
1971	1,299	148	1,447	165	.1	3	46	—	—	28	8	1,033	41	1,132
1972	1,326	150	1,476	173	.2	3	45	—	—	—	9	1,062	43	1,163
1973	1,235	139	1,374	219	.3	3	42	—	—	—	8	967	42	1,062
1974	1,054	93	1,147	120	.1	2	33	—	—	—	7	783	33	858
1975–6[1]	1,176	169	1,345	233	1.6	3	39	—	—	—	7	861	42	953
1976–7[1]	1,181	148	1,329	176		7								1,015
1977–8[2]	350	169	519	168										230
1978–9[2]	191	166	357	107										87
1979–0														

[1] Preliminary. [2] Estimated. [3] Data prior to 1970 are for the CALENDAR YEAR. [4] Prior to 1970 data are for JAN. 1.
Source: Agricultural Marketing Service, U.S.D.A.

Tall Oil Domestic Disappearance in the United States, Beginning of Month In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1970	106.9	83.1	94.8	100.8	101.5	89.7	76.1	101.1	96.2	100.4	93.3	81.7	1,126
1971	102.2	88.3	82.0	93.0	90.8	106.2	92.3	90.9	96.6	88.2	107.7	72.6	1,111
1972	95.8	92.8	105.4	91.9	95.6	92.8	88.7	104.4	95.8	102.4	88.9	74.0	1,129
1973	102.0	77.2	106.2	96.6	107.6	87.0	105.4	115.3	100.2	103.6	104.6	81.0	1,187
1974	98.6	77.5	90.5	86.8	92.9	81.4	90.5	84.0	70.6	83.1	82.5	84.0	1,022
1975	62.5	85.4	31.9	55.1	63.3	78.1	62.4	80.3	89.5	77.6	68.2	71.2	825
1976[1]	65.7	91.0	87.2	70.4	101.5	82.8	69.4	98.9	68.6	80.8	79.4	79.5	975
1977[1]							46.8	72.6	82.5	89.0	84.4	89.8	
1978[1]	–9.3	–13.2	19.6	–3.0	–4.9	1.9	8.1	–5.3	–2.7	4.4	1.6	17.1	
1979[1]	16.1	23.0	–19.4	10.3	19.0	29.3	–26.6	–13.0	25.5	17.1	–22.9	–7.3	
1980[1]	–18.7	2.3											

[1] Preliminary. *Source: Statistical Reporting Service, U.S.D.A.*

U.S. Average Wholesale Price of Tall Oil, Crude (Tanks-Works) In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
1968	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
1969	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
1970	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
1971	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
1972	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	4.1	4.3	3.8
1973	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.2
1974	4.3	4.3	4.3	5.6	6.3	6.3	7.5	7.8	9.0	11.4	11.3	11.3	7.4
1975	13.4	13.4	10.9	9.0	8.3	7.3	6.0	5.7	5.7	5.7	5.9	6.0	8.1
1976	6.1	6.2	6.2	5.8	5.8	5.8	5.5	5.5	5.5	6.0	6.0	6.0	5.9
1977	6.6	6.6	6.6	7.0	7.0	7.0	7.0	7.1	7.1	7.1	7.1	7.2	7.0
1978	7.4	7.5	7.5	7.8	7.8	7.8	7.8	7.5	7.5	7.5	7.5	7.5	7.6
1979	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
1980	7.8	7.8	7.8										

Source: Economic Research Service, U.S.D.A.

Tallow and Greases

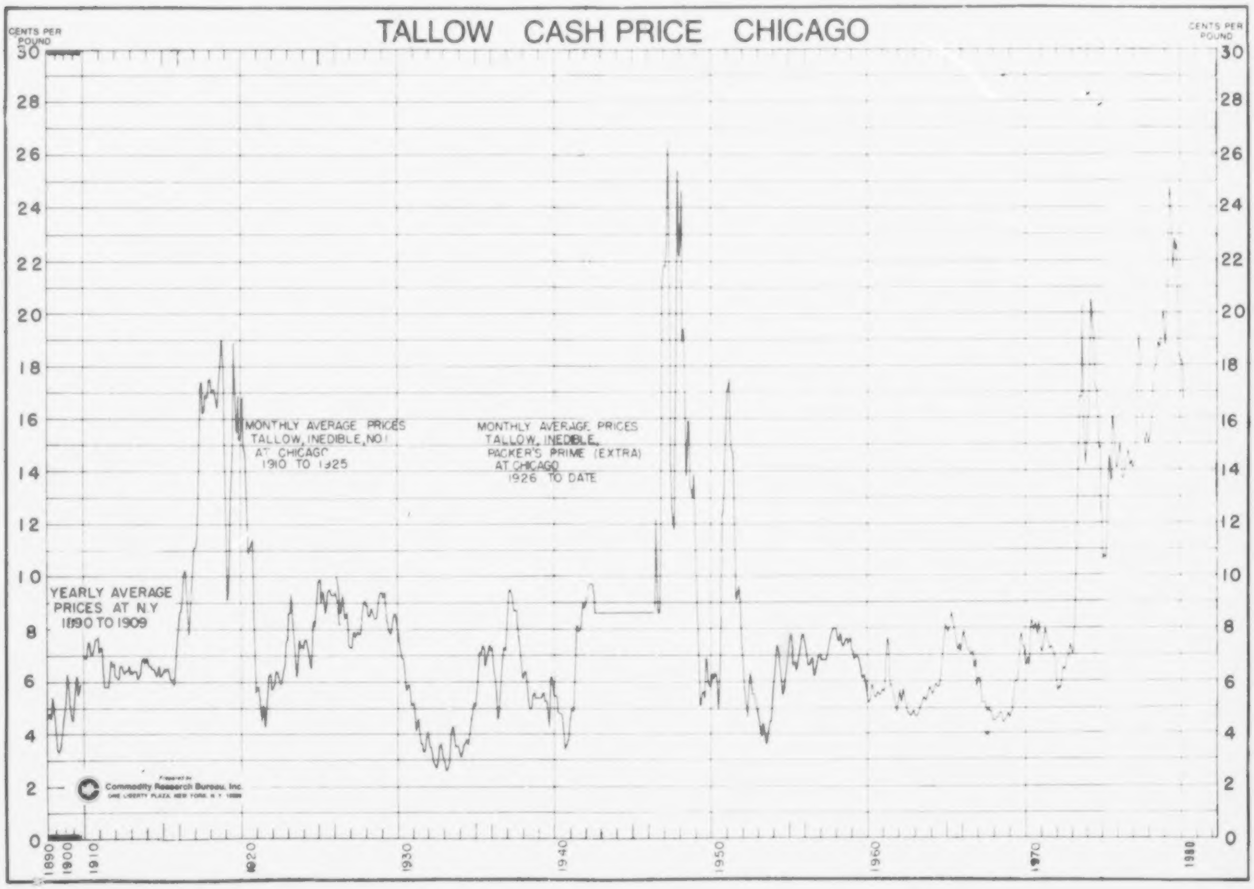
Edible and inedible tallow and grease production during the 1979/80 marketing year beginning October 1, 1979 was estimated at 7 billion pounds, up slightly from last year due to increased cattle slaughter at higher weights and increased hog slaughter. Edible tallow now accounts for 15 percent of total tallow and grease production and is gaining.

Domestic use of tallow and grease should increase slightly in 1979/80 from the 1978/79 total of 4.2 billion pounds due to increased substitution of tallow for increasingly costlier petroleum-derived lubricants.

Exports of tallow in 1979/80 (mostly inedible) were expected to be near 1978/79's 2.7 billion pounds but the suspension of export shipments to the Soviet Union will be a limiting factor since expected Soviet purchases of 100,000 tons are no longer possible in the 1979/80 marketing year.

Prices in early 1980 were at two-year lows due to the record availability of fats and oils in the U.S. Prices are expected to remain depressed for some time in view of this situation. Tallow (bleachable fancy, Chicago) in April 1980, at 19 cents a pound was 7 cents below April 1979. Edible tallow will face increasing competition from large lard supplies since both of these animal fats are used extensively in the manufacture of hydrogenated shortenings. Edible tallow declined from 25 cents per pound in October 1979 to 21 cents in April 1980, 9 cents below April 1979.

A recent study of the U.S. tallow and grease situation projects that exportable supplies of tallow and grease during the decade of the 1980s will remain relatively stable at the present export level of 2.7 billion pounds. U.S. exports account for approximately three-fourths of world trade in tallow and grease.



World Production of Tallow and Greases (Edible and Inedible) In Thousands of Metric Tons[2]

Year	Argentina	Australia	Brazil	Canada	Colombia	U.S.S.R.	France	W. Germany	Italy	Mexico	Netherlands	New Zealand	United Kingdom	United States	Eastern Europe	World Total
1965	238	438	122	266	43	505	261	177	101	75	57	178	309	4,923	*Avg.*	8,359
1966	277	419	117	246	41	545	265	187	121	75	57	190	318	5,059	*(168)*	8,604
1967	301	512	119	273	57	629	287	207	128	72	62	194	329	5,344		9,259
1968	306	502	147	313	41	673	287	251	144	79	65	215	319	5,283	206	9,372
1969[2]	153.9	188.4	75.4	150.5	20.4	305.0	122.0	116.0	66.5	20.4	28.8	95.6	137.2	2,354	93.5	4,180
1970	140.1	192.5	69.5	179.8	21.5	298.4	126.0	127.0	65.4	21.6	33.6	94.0	147.3	2,478	91.7	4,354
1971	128.9	213.3	70.5	199.6	23.8	304.7	144.0	161.0	66.3	21.2	33.2	92.1	147.3	2,609	91.7	4,579
1972	137.6	244.4	73.0	204.4	22.0	309.9	147.0	135.0	63.8	21.4	32.6	94.0	138.2	2,550	89.2	5,528
1973	135.5	247.7	75.0	204.5	19.6	316.3	157.0	135.0	66.0	22.8	33.9	99.5	132.1	2,412	100.5	5,121
1974[1]	140.7	197.8	62.5	208.7	17.6	335.8	179.0	150.0	88.0	27.3	45.2	95.1	162.6	2,912	102.2	4,723
1975[1]																5,294
1976[1]																5,545

[1] Preliminary. [2] Data prior to 1969 are in MILLIONS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*

Salient Statistics of Tallow and Greases (Inedible) in the United States In Millions of Pounds

	Supply					Utilization in Nonfood Products						Wholesale Prices, ¢ Per Lb.			
													Inedible		
													Chicago		
Year	Apparent Production[2]	Imports	Stocks Jan. 1	Total	Exports & Shipments	Soap	Animal Feed	Fatty Acids	Lubricants & Oils	Other	Total[3]	Edible (Loose) Chicago	No. 1	Bleachable Fancy	N.Y. Special, Tanks
1966	4,480	1	414	4,895	1,975	667	893	583	107	214	2,473	11.3	6.5	7.5	7.1
1967	4,753	6	447	5,206	2,222	643	972	545	92	151	2,559	7.5	4.6	5.5	5.4
1968	4,745	6	425	5,176	2,240	639	1,011	573	92	288	2,580	6.3	4.2	4.9	4.5
1969	4,655	6	358	5,019	1,896	635	1,078	608	101	173	2,775	9.3	6.0	6.8	5.8
1970	4,905	7	348	5,260	2,242	602	1,098	585	96	240	2,622	11.2	7.1	8.1	7.6
1971	5,210	5	396	5,611	2,607	588	1,143	585	81	226	2,623	10.8	6.6	7.7	7.1
1972	5,078	2	380	5,460	2,357	640	1,116	698	83	206	2,762	10.1	6.0	7.0	6.1
1973	4,843	10	341	5,194	2,299	566	1,077	899	111	270	2,540	18.4	12.4	14.9	7.2
1974	5,664	12	356	6,032	2,623	632	962	750	92	207	3,029	26.8	15.2	18.2	N.A.
1975	4,801	15	380	5,196	2,011	662	1,287	698	115	149	2,908	24.3	12.0	14.2	
1976	5,774	9	277	6,060	2,337	764	1,396	817	142	164	3,367	16.5	13.2	15.0	
1977[1]	5,966	4	355	6,325	2,893	734	1,397	764	128	158	3,099	21.2	13.6	17.1	
1978[4]	5,316	3	347	5,666	2,724						3,127	22.8	16.0	19.8	
1979															

[1] Preliminary. [2] Apparent production based on reported factory production, net foreign trade, & change in stocks. Reported factory production excludes that from small rendering plants. [3] Includes small amounts used in drying-oil products in some years. [4] Estimate. *Sources: Economic Research Service, U.S.D.A.; Bureau of Labor Statistics*

Average Wholesale Price of Tallow, Inedible, Packers (Prime), C.A.F. Chicago In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1966	7.9	7.6	7.4	7.2	7.2	7.1	7.2	7.0	7.1	6.5	5.8	6.1	7.0
1967	6.1	5.7	5.2	5.2	5.2	5.0	4.9	5.0	4.9	4.9	4.6	4.5	5.1
1968	4.5	4.6	4.6	4.8	4.8	4.6	4.4	4.5	4.5	4.6	4.8	4.8	4.6
1969	4.8	4.9	5.6	6.0	6.0	6.3	6.8	7.6	7.8	7.3	7.3	6.6	6.4
1970	6.9	6.6	7.4	8.1	8.3	7.9	8.1	8.2	7.7	8.3	8.0	7.2	7.7
1971	7.1	7.6	8.0	7.8	7.6	7.4	7.2	7.3	7.2	7.0	6.7	5.6	7.2
1972	5.8	5.7	5.8	6.5	6.5	6.4	6.6	6.9	7.0	7.4	7.2	7.0	6.6
1973	7.2	8.6	10.1	11.8	14.3	16.8	16.8	20.3	15.9	14.6	14.2	15.4	13.8
1974	16.6	19.4	20.5	19.4	19.3	17.2	17.1	17.0	14.8	14.9	14.3	10.8	16.8
1975	10.6	10.8	10.6	12.2	13.6	14.6	13.6	16.1	15.9	14.9	14.5	14.1	13.5
1976	14.1	14.4	15.0	13.7	13.9	14.2	14.8	14.2	14.4	14.1	14.1	14.3	14.3
1977	14.7	14.9	15.9	17.6	19.2	17.6	16.9	15.3	15.0	15.5	15.3	15.0	16.1
1978	15.4	16.0	17.3	17.8	17.9	18.2	18.9	18.7	19.5	19.8	20.1	18.8	18.4
1979	19.8	20.8	22.9	24.8	24.1	21.7	22.8	22.4	22.6	20.9	18.4	18.2	21.6
1980	18.1	16.7											

Source: Economic Research Service, U.S.D.A.

Tea

World tea production (excluding the Peoples Republic of China) in 1979 was estimated by the USDA's Foreign Agricultural Service (FAS) at 1.473 million tonnes, fractionally lower than the 1978 total of 1.478 million tonnes. Production in Asia and Oceania was off 1 percent in 1979 from 1978, while production in Africa was up 1 percent over the same period.

London auction tea prices were estimated by the FAS to have averaged 98 U.S. cents per pound in 1979, a slight decline from the 1978 average of 99.2 cents per pound, and considerably lower than the record high 121.7 cents per pound in 1977. First quarter 1980 prices averaged 104 cents per pound due to the effects of drought during the early harvest in Kenya, Sri Lanka, and to a lesser extent in the south of India where a lower quality of tea is produced. Since the drought situation is now somewhat allieviated, world production in 1980 is expected to be about the same level as 1978 and 1979. Average price is expected to be around 100 cents per pound.

Tea production in India, which is the largest producer and consumer of tea, declined to 549,000 tonnes in 1979 from the record harvest of 573,000 tonnes in 1978. However, exports increased in 1979 to 195,000 tonnes from 169,000 in 1978 as some early shipments in 1979 were from carryover stocks. Carryover is not a significant factor in world tea trade as tea is generally considered to have a satisfactory shelf life of only 9 to 12 months before quality declines.

Prospects for Indian tea exports are limited by Indian population growth. Indian domestic tea consumption is primarily a function of population but it does have some relationship to sugar prices as tea in India is usually consumed with large quantities of sugar. Thus, in a period of high sugar prices, somewhat more tea may be available for export.

Salient Statistics of Tea in the United States In Millions of Pounds

		U.S. Imports: (In Thous. Metric Tons[3])											Domestic Disappearance		
Year	Stocks, Jan. 1	Sri Lanka (Ceylon)	India	Indonesia	Japan	Kenya[2]	Mozambique	Netherlands	Malawi	Taiwan	Total	Total Supply	Military	Civilian	Per Capita Per Lb.
1967	55	56.1	20.4	18.9	3.2	10.0	2.7	12.5	4.4	6.1	142.6	197	5	135	.69
1968	56	49.9	23.8	20.3	4.0	10.7	3.0	17.2	4.9	6.6	155.4	211	3	143	.73
1969	64	51.8	19.3	20.6	2.9	12.3	3.0	6.3	5.8	4.7	140.0	204	2	145	.73
1970	55	46.1	15.8	21.4	2.8	15.2	2.4	6.3	5.1	5.3	137.2	192	3	146	.72
1971	42	54.8	22.8	25.4	2.6	21.4	3.9	8.7	7.4	8.0	175.4	217	2	158	.77
1972	56	42.9	16.8	21.7	3.9	14.6	4.6	7.6	6.9	8.2	151.5	207	3	160	.77
1973[3]	43	19.7	8.2	13.3	2.1	8.4	3.1	5.1	2.7	3.2	78.9	216	2	165	.79
1974		19.6	7.5	13.3	1.9	7.9	3.1	6.4	3.2	3.3	80.9				.80
1975		18.3	6.8	12.9	1.7	8.4	2.7	2.4	2.2	4.0	72.3				.80
1976		21.1	8.0	11.6	3.2	10.7	2.0	1.3	4.1	4.8	82.2				.81
1977[1]		16.6	12.3	14.7	3.4	9.5	2.3	3.0	5.6	5.7	92.1				.90
1978[1]		14.0	1.7	10.7	3.2	8.2	1.4	4.1	4.2	3.0	68.8				.70
1979[1]		14.7	5.9	11.2	2.9	9.4	2.4	4.7	2.5	2.3	79.2				.70
1980															

[1] Preliminary. [2] Data prior to 1964 are for EAST AFRICA. [3] Imports prior to 1973 are in MILLIONS OF POUNDS.
Sources: Statistical Reporting Service, U.S.D.A.; Bureau of Census

N.Y. Wholesale Price of Tea (Black)[1] In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	46.2	45.9	44.7	45.0	45.7	44.8	46.3	46.7	46.9	48.1	49.2	46.9	46.4
1968	46.6	47.1	45.3	45.7	46.0	45.6	46.1	46.2	46.4	46.8	45.6	44.7	46.0
1969	43.9	44.0	43.6	42.9	42.3	42.4	41.0	42.0	41.9	41.2	42.1	43.4	42.6
1970	43.9	44.2	44.6	44.8	45.3	45.4	45.8	47.1	47.8	47.5	45.9	47.7	45.8
1971	48.1	47.8	48.8	48.1	48.3	47.7	48.1	48.1	49.7	49.5	49.6	50.7	48.7
1972	50.3	50.8	53.0	53.5	53.5	52.1	51.0	49.1	49.6	49.5	47.8	47.6	50.7
1973	46.8	47.9	48.6	48.8	48.9	48.2	48.7	48.8	48.0	48.0	48.0	48.3	48.3
1974	49.1	50.4	58.2	62.7	62.3	64.7	63.8	64.9	64.4	65.3	66.9	71.4	62.0
1975	71.3	73.9	75.5	72.1	69.4	68.7	65.3	65.0	63.6	65.4	65.9	66.4	68.5
1976	66.1	66.7	67.3	67.1	68.2	71.4	75.9	82.4	81.7	81.3	80.3	82.5	74.2
1977	N.A.	99.9	136.8	211.4	191.6	157.9	144.2	136.0	129.4	116.1	116.8	112.1	141.1
1978	109.9	122.1	121.5	115.1	110.4	109.4	109.6	108.8	107.4	110.3	110.5	106.6	111.8
1979	108.9	107.0	105.3	102.1	99.9	96.4	97.5	97.8	102.0	105.9	103.3	101.8	102.3
1980	103.9	108.9	110.3										

[1] Medium broken grade from Ceylon & India; ex-dock or ex-warehouse. *Source: Bureau of Labor Statistics* (0191–0331)

World Tea Production, in Major Producing Countries In Thousands of Metric Tons[3]

Year	Argentina	Sri Lanka (Ceylon)	India	Indonesia	Iran	Japan	Kenya	Malawi	Mozambique	Bangladesh	Taiwan	Turkey	Uganda	U.S.S.R.	World Total
1967	31.7	486.7	848.2	73.6	37.0	187.7	50.3	37.1	31.8	64.7	53.8	48.0	24.8	121.4	2,165
1968[3]	17.0	224.8	402.5	41.4	18.7	85.0	29.8	15.8	14.2	28.3	24.4	27.6	15.2	56.1	1,035
1969	20.0	219.6	396.0	44.1	19.0	89.6	36.1	16.9	16.0	30.0	26.2	34.4	17.6	59.9	1,062
1970	18.5	212.2	418.5	44.0	16.0	91.2	41.1	18.7	17.0	31.4	27.6	33.4	18.2	66.8	1,098
1971	25.0	217.8	435.5	48.2	24.0	92.9	36.3	18.6	16.5	12.5	27.0	33.6	18.0	68.6	1,123
1972	24.0	213.5	456.0	49.8	22.0	94.8	53.3	20.7	18.7	23.8	26.2	46.5	23.4	71.3	1,197
1973	23.1	211.3	472.0	54.5	23.0	101.0	56.6	23.6	18.8	27.6	28.6	43.2	20.4	74.8	1,236
1974	26.0	204.0	492.1	51.7	25.0	95.2	53.4	23.3	17.6	32.2	24.2	42.8	21.7	80.8	1,245
1975	29.0	213.7	489.4	56.8	23.0	105.4	56.7	26.2	13.1	29.0	26.1	55.6	18.4	86.3	1,284
1976	33.0	196.6	514.4	61.1	22.0	100.1	62.0	28.3	13.8	33.3	24.8	59.5	15.4	92.0	1,316
1977	33.5	208.6	562.8	64.7	20.0	102.3	86.3	31.7	14.0	37.5	26.3	84.1	15.0	106.4	1,456
1978[1]	30.0	199.0	573.0	73.5	25.0	104.7	—	31.7	18.1	38.0	25.9	86.2	10.2	103.0	1,478
1979[2]	33.0	206.4	549.0	74.2	20.0	105.0	99.3	32.6	19.7	35.9	26.0	95.0	2.9	105.0	1,473
1980															

[1] Preliminary. [2] Forecast. [3] Data prior to 1968 are in MILLIONS OF POUNDS. *Source: Foreign Agricultural Service; U.S.D.A.*

World Tea Exports from Producing Countries In Thousands of Metric Tons

Year	Sri Lanka (Ceylon)	China	India	Indonesia	Japan	Malaysia	Bangladesh	Taiwan	Total Asia	Kenya	Mozambique	Malawi	Total Africa	Argentina	Grand Total
1967	216.5	29.4	213.7	26.6	1.7	2.0	—	19.1	519.0	19.7	14.4	16.8	71.7	11.4	605.2
1968	208.7	34.8	208.4	34.7	2.0	1.9	—	18.4	518.5	28.4	14.2	15.8	83.5	14.7	619.7
1969	201.4	32.4	168.7	27.1	1.6	1.5	—	21.3	463.4	33.8	15.4	17.3	98.8	14.6	579.8
1970	208.3	30.0	200.2	36.9	1.6	1.3	—	20.4	509.4	36.1	16.7	17.7	103.5	19.1	636.3
1971	200.8	41.0	204.4	40.2	1.5	1.0	—	22.8	531.7	34.3	17.5	18.2	105.6	22.4	665.5
1972	190.1	42.0	209.8	38.5	1.9	.8	13.2	21.3	535.8	47.4	18.4	19.9	129.3	18.9	688.7
1973	205.5	37.0	188.2	35.6	2.2	.6	20.3	21.1	533.9	51.5	17.9	22.1	133.9	18.0	692.3
1974	185.1	54.0	205.9	50.2	1.8	.6	21.2	17.2	554.1	49.6	17.2	23.8	129.6	24.1	714.0
1975	212.4	55.0	219.4	46.0	2.2	.5	24.1	20.1	586.0	52.6	12.2	24.2	127.7	17.4	736.3
1976	199.7	62.0	237.3	47.5	3.2	.5	30.7	21.1	609.6	59.3	12.9	29.6	138.4	25.1	779.7
1977	185.5	68.0	229.6	51.3	3.5	.5	26.0	20.8	597.2	70.2	12.9	29.9	154.1	26.9	784.7
1978[1]	192.6	64.0	169.0	56.2	3.4	.5	31.0	20.4	547.7	85.0	12.5	30.8	166.6	31.0	754.2
1979															

[1] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

United States Imports of Tea In Thousands of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	12,461	11,633	14,419	14,518	12,663	12,378	10,476	11,907	9,931	8,196	10,144	13,857	142,583
1968	10,910	10,121	13,500	13,121	15,800	13,734	11,440	16,354	14,766	7,677	12,279	15,633	155,335
1969	1,859	4,046	14,825	16,785	17,989	13,655	11,644	8,892	13,760	11,141	13,593	11,773	139,962
1970	10,826	10,264	15,285	12,767	11,503	10,972	8,940	8,778	10,805	11,971	10,409	12,682	135,202
1971	13,226	12,360	15,073	18,078	15,128	16,529	20,150	25,141	19,427	4,631	3,828	11,862	175,432
1972	12,914	16,907	10,276	10,165	12,885	16,563	10,835	11,581	12,830	14,348	11,460	10,731	151,495
1973	15,481	14,295	15,399	14,107	17,423	12,425	13,660	12,614	12,527	16,878	16,506	11,997	173,314
1974	11,675	14,974	16,583	17,177	18,122	17,489	21,788	16,432	13,954	10,460	7,735	11,844	178,326
1975	14,297	12,200	15,486	13,648	14,694	12,170	9,915	11,276	12,404	17,594	13,940	11,843	159,287
1976	11,842	12,309	15,779	15,805	13,053	13,893	14,259	15,051	19,224	15,683	16,133	18,273	181,304
1977	16,059	15,064	22,389	23,302	27,345	22,335	22,252	15,932	9,994	9,702	7,213	10,924	203,012
1978	9,023	12,791	18,648	15,450	17,523	8,286	13,141	13,788	9,390	12,502	8,877	12,332	151,751
1979	14,797	10,568	15,584	13,822	13,556	14,352	13,361	14,809	15,841	16,992	15,432	15,578	174,690
1980	18,749	17,562											

Source: Department of Commerce

Tin

In 1979, the U.S. continued to rely on its tin supply from foreign sources such as Malaysia, Thailand, Bolivia, and Indonesia, and from domestic recycling. U.S. mine production remained below 100 tons, and secondary production declined. Imports of tin metal increased 11 percent over the 1978 level. About one-fifth of the tin used in the United States was reclaimed from scrap.

Both primary tin consumption, at about 49,000 metric tons, and secondary tin consumption, at about 13,500 tons, rose slightly compared with 1978. The major uses for tin were in tinplate, 32 percent; solder, 27 percent; bronze and brass, 14 percent; and chemicals, 9 percent. Consumption of tin in the two major end uses, tinplate and solder, registered slight increases.

Tin prices continued to rise throughout the year as world tin production continued to lag demand. The price rise was especially strong in the last few months of the year when domestic buyers began to feel that approval for GSA tin disposal might not occur as early as anticipated. The Metals Week average annual New York market price increased over $1 to about $7.50 per pound. Major increases in world production continued to be hindered by heavy taxation and land availability problems in major producing countries. Malaysia, the largest tin producing country, instituted a lower tax structure on its tin producers last year, with the result that tin production was expected to increase to 64,000 tons in 1979.

Although the goal for tin for the strategic stockpile remained at 33,021 tons and the total inventory stood at 203,698 tons, the General Services Administration (GSA) was not authorized to sell additional tin. In mid-December, Congress passed legislation that would provide for sales of as much as 35,000 long tons from the stockpile, including 5,000 long tons for contribution to the International Tin Council (ITC) buffer stock.

The United States, participating as a consumer country member of the Fifth International Tin Agreement, worked within the ITC to encourage increased world tin production. The ITC revised upwards its floor and ceiling prices to $5.25 and $6.82 per pound, respectively.

Political changes in Bolivia reportedly caused severe interruptions in tin mining that continued through the end of the year.

United States Tin Stocks (Pig—Industrial) In Metric[2] Tons[1]

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	22.7	22.4	20.7	20.5	20.8	20.3	20.6	21.0	19.9	18.6	19.3	17.6
1968	18.7	18.0	17.5	18.4	18.9	18.5	16.5	16.9	15.7	18.1	16.4	16.3
1969	18.6	15.0	13.8	15.5	15.6	14.9	15.3	14.7	13.6	16.0	16.2	14.8
1970	13.8	13.7	13.1	12.7	11.8	11.8	12.9	11.3	10.7	11.7	12.0	11.7
1971[1]	11,318	10,000	8,970	8,155	8,495	9,510	10,600	10,340	11,205	10,905	9,025	8,520
1972	9,804	12,005	12,670	11,247	10,630	12,535	11,240	11,235	12,195	10,080	11,370	12,180
1973[2]	11,757	10,435	9,023	9,764	9,419	8,286	9,175	9,038	10,795	9,300	9,002	9,495
1974	10,124	9,078	8,829	9,978	10,069	10,331	9,983	9,307	10,669	9,800	9,998	10,369
1975	10,420	11,873	13,117	10,333	10,986	11,240	11,049	9,164	9,133	9,249	9,883	8,840
1976	9,642	9,395	8,624	9,189	7,855	6,963	8,375	9,623	8,749	7,871	7,929	7,213
1977	7,282	8,032	7,883	5,874	6,175	5,644	4,720	6,305	5,557	5,378	9,214	7,212
1978	8,441	7,626	6,628	6,291	7,785	8,139	7,846	7,817	7,260	5,774	4,975	5,666
1979	5,040	4,594	4,254	5,891	6,097	5,938	6,317	6,270	6,096	5,058	4,901	4,244
1980	4,238											

[1] Data prior to 1971 are in THOUSANDS OF LONG TONS. [2] Data prior to 1973 are in LONG TONS. *Source: Bureau of Mines*

United States Tin (Pig) Consumption (Total) In Metric[1] Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	7,000	6,720	7,260	6,685	7,570	7,065	5,995	6,220	6,025	6,150	6,165	6,265	80,638
1968	7,010	6,775	7,010	7,285	7,685	7,090	6,305	6,270	6,660	7,510	6,495	6,485	81,961
1969	6,920	6,330	6,755	7,250	7,130	6,905	6,435	6,455	6,625	7,105	6,110	6,210	80,790
1970	6,345	5,605	6,760	6,595	6,505	6,580	5,885	5,635	6,240	5,860	5,515	5,690	73,837
1971	5,830	5,660	6,355	6,305	6,175	6,240	5,605	5,185	5,870	5,910	5,800	5,610	69,950
1972	5,370	5,470	6,190	5,750	6,150	5,985	5,260	5,660	5,405	5,700	5,365	5,525	69,201
1973[1]	5,964	6,040	6,472	6,411	6,569	6,330	5,294	5,720	5,913	6,355	6,045	5,878	75,838
1974	6,757	5,995	6,259	6,533	6,386	6,061	4,689	5,431	5,614	6,147	4,166	4,283	65,781
1975	3,871	4,847	4,841	5,055	4,394	4,308	3,810	4,298	4,521	4,755	4,410	4,618	55,800
1976	5,170	4,930	5,825	5,415	5,490	5,965	5,240	5,380	5,680	6,395	5,950	5,700	62,828
1977	5,600	5,500	6,800	5,800	5,800	6,000	5,200	5,800	5,900	5,400	5,000	5,100	68,000
1978	5,400	5,000	5,500	5,200	5,700	5,400	4,600	5,200	5,200	5,300	5,400	4,900	63,100
1979	5,400	5,500	6,400	5,400	5,400	5,300	4,900	4,900	5,000	5,500	5,000	4,600	62,500
1980													

[1] Data prior to 1973 are in LONG TONS. *Source: Bureau of Mines*

World Mine Production of Tin (Content of Ore) In Thousands of Metric[4] Tons

Year	Australia	Bolivia[1]	Brazil	U.S.S.R.	China[3]	Zaire (Congo)	Indonesia	Japan	Malaysia	Nigeria	Rwanda	South Africa	Thailand	United Kingdom	World Total
1967	5.6	26.9	1.7	.5	20.0	4.7	13.6	1.2	72.1	9.3	1.4	1.8	22.5	1.5	214.2
1968	6.5	29.1	2.8	.4	20.0	6.2	16.7	.9	75.1	9.6	1.4	1.8	23.6	1.8	228.3
1969	8.6	29.6	2.6	.4	20.0	6.5	17.1	.7	72.2	8.6	1.3	1.8	20.8	1.6	225.7
1970	8.7	28.9	3.6	27.0	20.0	6.4	18.8	.8	72.6	7.8	1.3	2.0	21.4	1.7	228.5
1971	9.9	29.5	2.1	28.0	20.0	6.4	19.4	.8	74.3	7.2	1.3	2.0	21.3	1.8	231.4
1972	11.8	31.0	3.7	28.5	20.0	5.9	21.0	.9	75.6	6.6	1.3	2.1	21.7	3.3	240.3
1973[4]	10.8	30.3	5.4	29.0	20.0	5.4	22.3	.8	72.3	5.8	1.3	2.7	20.9	3.8	237.8
1974	10.5	29.5	4.4	29.5	20.0	4.7	25.0	.5	68.1	5.5	1.3	2.5	20.3	3.8	232.9
1975	9.6	24.3	5.0	30.0	22.0	4.6	25.3	.7	64.4	4.7	1.4	2.6	16.4	4.1	222.3
1976	10.1	29.8	5.9	31.0	20.0	4.0	23.4	.6	63.4	3.7	1.6	2.8	20.5	4.0	228.0
1977[2]	10.0	32.6	6.4	33.0	20.0	3.6	24.0	.6	58.7	3.3	1.2	2.9	24.2	3.9	231.4
1978[3]	11.6	30.9	8.5	33.0	20.0	3.5	24.1		62.7	2.8			30.2	2.8	244.3
1979[3]	12.0	30.0	9.0	34.0	22.0	3.4	24.0		62.0	3.0			30.0	2.6	247.0
1980															

[1] Exports. [2] Preliminary. [3] Estimate. [4] Data prior to 1973 are in LONG TONS. *Source: Bureau of Mines*

World Smelter Production of Tin In Thousands of Metric[3] Tons

Year	United States[1]	Australia	Belgium	Brazil	Zaire (Congo)	Malaysia	China	W. Germany	Japan	Nigeria	Indonesia	Portugal	U.S.S.R.	Un. Kingdom	Total
1967	3.0	3.6	4.2	1.4	1.8	76.3	20.0	1.6	1.7		1.5	.6	25.0	23.3	219.2
1968	3.5	3.7	4.8	1.7	1.9	88.2	20.0	1.5	1.9		3.6	.6	26.0	24.9	229.6
1969	.3	4.2	4.4	2.2	1.9	87.1	20.0	1.4	1.4		5.9	.5	27.0	26.0	225.3
1970	N.A.	5.1	4.2	3.2	1.4	90.0	20.0	1.2	1.4	7.9	5.1	.4	27.0	21.7	223.7
1971	4.0	6.2	3.9	3.4	1.3	85.7	20.0	1.2	1.3	7.2	9.1	.5	28.0	22.8	232.0
1972	4.2	6.9	3.9	3.5	1.4	89.6	20.0	.8	1.3	6.6	11.8	.6	28.5	21.0	236.3
1973[3]	4.9	6.9	3.7	3.8	1.0	82.5	20.0	1.0	1.4	6.0	14.6	.5	29.0	20.4	233.9
1974	6.1	6.7	3.4	4.9	1.0	83.1	20.0	1.4	1.3	5.6	15.1	.5	29.5	20.4	236.2
1975	6.5	5.3	4.6	5.4	.6	83.1	22.0	1.3	1.2	4.7	17.8	.4	30.0	11.5	227.9
1976	5.7	5.6	4.1	6.6	.6	78.0	20.0	1.4	1.1	3.7	22.2	.4	31.0	9.8	229.9
1977[2]	6.7	5.6	3.5	6.8	.6	66.3	20.0	2.9	1.3	3.3	24.0	.3	33.0	10.5	230.2
1978															

[1] Imports into the U.S. of tin concentrates (tin content). [2] Preliminary. [3] Data prior to 1973 are in LONG TONS.
Source: Bureau of Mines

Tin Foreign Trade of the United States In Metric[5] Tons

		Imports (For Consumption)													
		Concentrates[3] (Ore)			Bars, Blocks, Pigs, etc.[4] (Metal)										
Year	Exports (Metal[2])	Total All Ore	Bolivia	Indonesia	Total All Metal	Thailand	Belgium	Indonesia	Malaysia	Netherlands	United Kingdom	Bolivia	Brazil	China (Mainland)	Nigeria
1967	2,479	3,255	3,247	—	50,223	16,586	228	—	30,691	25	1,333	571	—	—	—
1968	4,495	2,439	2,337	—	57,358	12,326	12	—	41,324	871	1,430	38	—	—	606
1969	2,903	0	—	—	54,950	13,946	31	—	37,945	267	1,873	—	—	—	170
1970	4,452	4,467	4,467	—	50,554	15,395	11	—	31,819	70	412	—	—	—	481
1971	2,262	3,060	3,010	—	46,940	13,861	16	—	27,746	25	621	864	—	—	306
1972	1,134	4,216	4,216	—	52,451	11,727	71	1,997	32,645	163	471	1,104	—	—	184
1973	3,406	4,798	4,782	—	45,845	7,964	118	2,829	28,255	45	888	832	—	—	105
1974	8,415	5,877	5,877	—	39,602	5,766	10	4,121	20,668	194	1,834	1,135	—	—	521
1975	3,539	6,314	6,314	—	43,665	7,305	—	4,302	23,542	—	444	147	—	—	58
1976	2,338	5,733	5,733	—	45,055	6,885	—	4,972	26,981	—	284	1,978	—	—	—
1977[5]	5,480	6,724	6,667	55	47,774	7,780	—	5,294	27,084	1	513	3,358	2,380	381	2
1978[1]	4,692	3,873	3,541	165	46,776	6,865	155	5,664	23,928	50	468	5,768	1,810	1,571	—
1979[1]	3,418	4,528	3,745	—	48,355	10,440	100	5,429	23,448	—	550	5,387	933	185	—
1980															

[1] Preliminary. [2] Pigs, bars, etc.; includes re-exports. [3] Tin content. [4] Also grain, or granulated. [5] Data prior to 1976 are in LONG TONS. *Source: Department of Commerce*

U.S. Consumption of Primary and Secondary Tin In Metric[3] Tons

Year	Industry Stocks Jan. 1	Net Receipts					Available Supply	Industry Stocks Dec. 31	Total Processed	Consumed in Mfg. Pdt's.
		Primary	Secondary	Terne	Scrap	Total				
1967	32,718	56,324	2,884	—	21,492	80,700	113,418	30,087	83,331	80,638
1968	30,087	59,018	2,101	—	21,919	83,038	113,125	28,152	84,973	81,961
1969	28,152	55,125	2,325	—	21,624	79,074	107,226	23,441	83,785	80,790
1970	23,441	52,096	2,502	—	19,748	74,346	97,787	21,505	76,622	73,837
1971[3]	21,505	52,557	2,531	—	16,439	71,527	93,032	18,855	74,177	71,073
1972	18,855	55,958	2,842	—	14,115	72,915	91,770	18,787	72,983	70,312
1973	18,787	60,125	4,089	—	13,915	78,129	96,916	18,534	78,382	75,838
1974	18,534	55,382	2,285	—	12,296	69,963	88,497	20,228	62,269	65,780
1975	20,228	43,183	2,699	—	10,568	56,450	76,678	19,440	57,238	55,800
1976	19,440	50,031	2,019	—	10,189	62,239	81,679	16,860	64,819	62,928
1977[1]	16,860	48,234	4,025		10,604	62,863	79,723	16,843	62,880	60,732
1978[2]	16,843							14,919		
1979[2]	14,919									

[1] Preliminary. [2] Estimated. [3] Data prior to 1971 are in LONG TONS. *Source: Bureau of Mines*

Consumption of Tin in the United States by Finished Products In Metric[5] Tons of Contained Tin

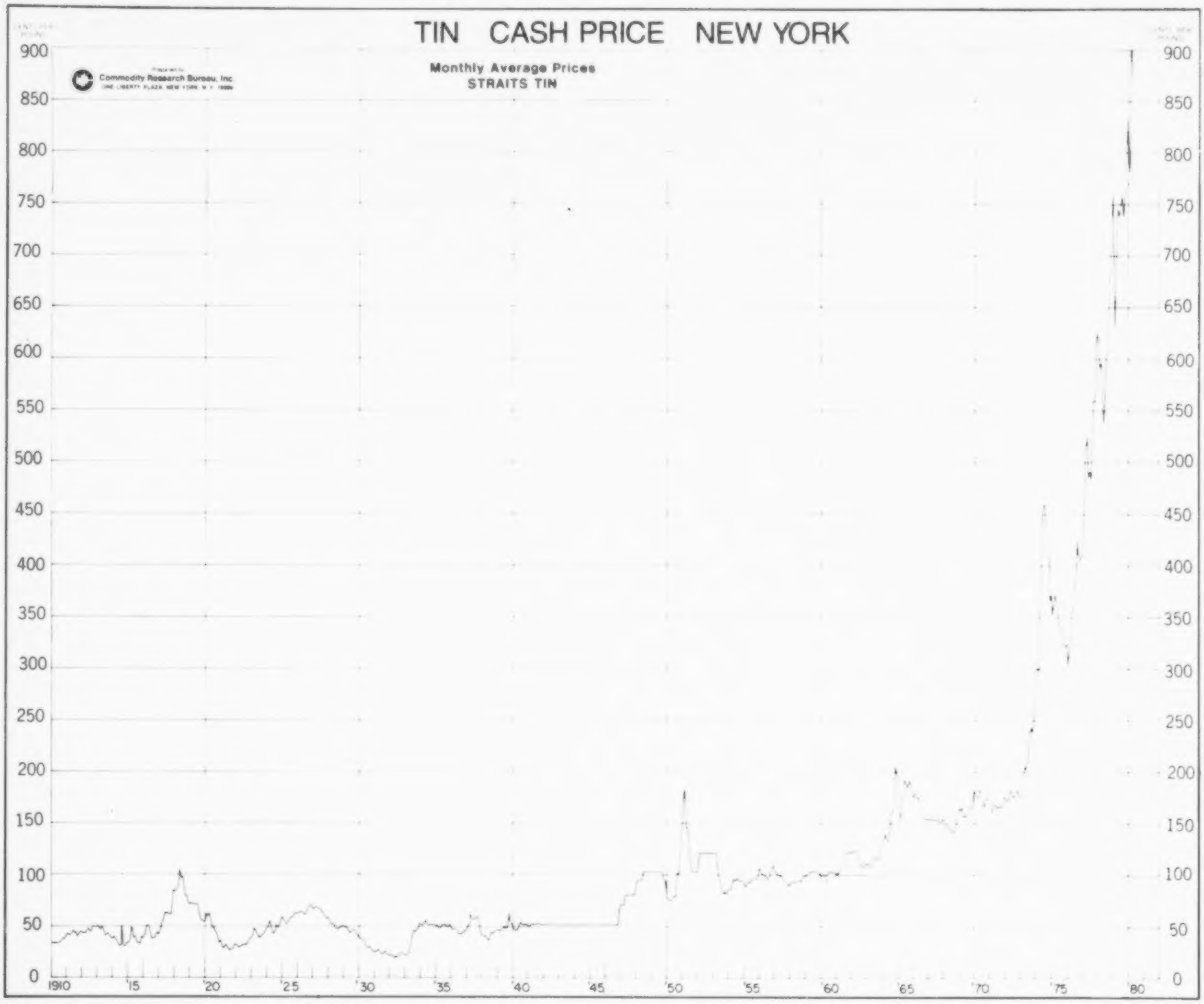
Year	Tin-plate[2]	Solder	Babbitt	Bronze & Brass	Collap. Tubes & Foil	Tinning	Chemicals[3]	Tin Powder	Type Metal	Bar Tin & Anodes	White Metal	Total	
												Primary	Secondary
1966	28,584	22,742	3,770	17,914	1,281	2,656	2,830		1,298	2,176	929	60,185	25,277
1967	29,552	20,122	2,821	16,460	1,109	2,609	2,774		1,119	875	1,164	57,848	22,790
1968	28,839	21,370	3,583	15,482	1,169	2,160	3,167	1,156	1,217	1,085	1,396	58,859	23,102
1969	26,886	21,283	3,506	16,526	1,143	2,289	3,107	1,274	1,110	1,043	1,384	57,730	23,060
1970	25,127	20,184	3,241	13,666	860	2,143	3,125	1,059	1,109	1,052	1,274	52,957	20,880
1971	23,669	19,759	3,164	11,023	733	2,294	3,640	1,533	820	842	1,447	51,980	17,970
1972	21,070	21,961	3,135	9,722	806	2,540	4,030	1,150	840	896	1,717	53,501	15,700
1973	21,267	24,727	3,475	9,976	1,002	2,585	4,828	1,459	640	705	2,103	58,142	16,498
1974[5]	22,686	15,586	3,306	9,508	968	2,563	4,942	1,331	344	812	2,005	52,439	13,341
1975	18,869	15,075	2,605	7,555	538	1,896	3,998	850	265	637	2,217	43,620	12,180
1976	20,766	17,728	2,423	7,656	694	2,308	5,621	1,208	216	758	2,347	51,767	11,161
1977[1]	18,539	17,315	2,093	8,606	787	2,323	5,727	1,287	202	578	1,655	47,596	13,136
1978[4]	17,280	17,770	2,346	9,048	673	2,431	4,557	1,360	171	424	1,484	48,403	13,128
1979[4]	17,931	14,128	1,482	7,410	540	1,599	4,463	1,313	85	299	743	49,000	13,500

[1] Preliminary. [2] Includes small quantity of secondary pig tin and tin acquired in chemicals. [3] Including tin oxide. [4] Estimated. [5] Data prior to 1974 are in LONG TONS. *Source: Bureau of Mines*

Secondary Tin Recovered in the United States In Metric[4] Tons

Year	Tin Recovered at Detinning Plants						Tin Recovered by Form of Recovery								
	Tin-plate Scrap Treated (Ths. Tons)	Tin Recovered			Weight of Tin Compounds Produced	Avg. Quantity of Tin Recov. Per Ton of Tin-Scrap (Kilog.[5])	Tin Metal	Bronze & Brass	Solder	Type Metal	Babbitt	Anti-Monial Lead	Chemical Compounds	Misc.[3]	Grand Total
		As Metal	In Compounds[2]	Total											
1967	773.6	2,667	486	3,153	940	9.13	3,176	11,268	4,775	1,604	912	386	506	40	22,667
1968	778.3	2,447	492	2,939	893	8.46	2,978	11,895	4,215	1,604	838	400	524	41	22,495
1969	831.7	2,420	560	2,980	990	8.03	3,022	11,659	4,645	1,497	817	510	584	41	22,775
1970	771.4	1,988	620	2,608	1,076	7.57	2,574	9,277	4,898	1,517	683	351	700	1	20,001
1971	742.3	1,786	583	2,369	1,105	7.15	2,324	8,934	5,482	1,202	899	631	612	12	20,096
1972	715.0	1,494	672	2,166	1,284	6.79	2,199	9,354	5,213	1,232	854	604	716	8	20,180
1973	764.2	1,416	677	2,093	1,450	6.13	2,012	9,487	5,488	1,052	751	948	727	12	20,477
1974[4]	717.8	1,449	585	2,034	1,085	2.83	2,021	8,963	5,319	987	570	729	599	12	19,200
1975	651.2	1,146	670	1,816	1,344	2.79	1,741	7,144	4,414	877	569	442	670	12	15,869
1976	685.5	1,195	424	1,619	1,348	2.36	1,467	8,319	4,513	668	495	548	424	12	16,446
1977[1]	667.4	1,376	365	1,741	1,516	2.61	1,668	10,397	4,094	708	694	565	365	12	18,503
1978[1]							1,565	12,419	4,363	1,038	521	712	—482—		21,100
1979[1]							1,850	10,050	3,100	300	450	650	- 1,000—		17,000

[1] Preliminary. [2] Tin content. [3] Includes foil, cable lead & terne metal. [4] Data prior to 1974 are in LONG TONS. [5] Data prior to 1974 are in POUNDS. *Source: Bureau of Mines*



Average Price of Straits Tin (Alloyer Price[1]) in New York In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	153.88	154.38	153.71	153.33	153.11	154.94	154.39	152.50	151.01	151.99	155.01	152.59	153.40
1968	147.87	145.63	145.62	145.21	143.29	141.65	141.48	141.84	148.04	151.07	162.14	163.46	148.11
1969	162.50	165.18	155.52	156.81	156.67	159.00	162.00	165.91	165.64	166.71	175.96	181.32	164.43
1970	179.17	174.91	177.12	183.87	180.54	170.23	164.77	174.51	174.74	173.65	172.25	163.85	174.13
1971	161.64	162.85	167.01	168.88	166.02	164.48	166.44	166.07	167.29	167.70	175.39	174.36	167.34
1972	171.31	172.00	179.81	181.98	177.92	175.03	176.61	179.12	181.99	180.40	177.21	176.25	177.47
1973	179.05	192.00	205.09	202.44	209.11	212.27	237.55	243.45	239.50	245.91	262.44	300.99	227.48
1974	298.14	351.54	389.43	440.77	456.88	458.50	426.61	422.99	415.92	365.33	370.96	351.87	395.75
1975	363.76	372.03	366.04	354.10	342.54	342.48	333.32	331.85	322.77	321.95	324.03	303.02	339.83
1976[1]	312.39	326.00	349.07	358.80	377.00	390.30	424.27	411.27	405.40	406.77	414.84	423.25	383.34
1977	470.54	514.16	522.97	485.28	491.93	482.15	518.71	559.51	558.47	619.25	626.16	613.36	538.76
1978	591.19	595.93	557.48	537.85	570.58	600.95	606.21	641.80	679.66	739.69	758.84	695.86	631.34
1979	684.56	724.57	746.14	740.06	745.18	760.14	759.86	739.93	762.03	785.54	801.23	830.88	756.87
1980	781.73	866.39	900.23	872.21									
1981													

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[1] **Prices prior to 1976 are for PROMPT DELIVERY.** *Source: American Metal Market*

Titanium

The market for titanium sponge metal continued to be very strong in 1979, and demand for titanium dioxide pigment was about the same as in 1978.

Imports of ilmenite, nearly all from Australia, were estimated at 280,000 tons, 9 percent lower than in 1978. Imports of slag, 76 percent from Canada and the rest from the Republic of South Africa, totaled about 170,000 tons, 14 percent more than in 1978. Natural rutile imports, 86 percent from Australia, 9 percent from South Africa, and 5 percent from Sri Lanka, were about 160,000 tons, 37 percent less than in 1978. Synthetic rutile imports totaled about 142,000 tons, nearly four times those of 1978, and were 69 percent from Australia, 21 percent from Taiwan, and 10 percent from India.

The spot price of rutile at yearend was $375-$400 per short ton f.o.b. Atlantic and Great Lakes ports; the price f.o.b. Australia rose about 40 percent during the year to $348-$369 per short ton. Ilmenite was quoted at $50 per long ton f.o.b. Atlantic ports, and slag was priced at $110 per long ton f.o.b. Sorel, Quebec, throughout the year.

Production and consumption of titanium dioxide pigment in 1979 were estimated at 724,000 and 824,000 tons, respectively, slightly above 1978.

Prices of pigment at year end were 59 cents per pound for rutile pigments, and 53 cents per pound for anatase.

The continuing shortage of titanium has led U.S. and foreign producers to start building additional sponge capacity. Expansion plans already underway, announced, and under consideration could raise total U.S. annual capacity from the current 23,500 tons to 25,000 tons in 1980, 27,000 tons in 1981, 29,000 tons in 1982-84, and 34,000 tons in 1985.

Domestic production of titanium sponge metal was 22 percent higher than in 1978. Industry sponge inventories decreased from 2,600 tons in January, to about 1,300 tons by yearend. Ingot production increased 18 percent to 37,000 tons during 1979. Consumption of sponge and scrap increased 21 percent and 14 percent to 24,000 tons and 14,000 tons, respectively. Imports of sponge increased 63 percent to about 2,400 tons, with 85 percent from Japan, and 15 percent from the U.S.S.R. The published price of domestic sponge metal was increased in March 1979 from $3.28 to $3.98 per pound. The published price of imported Japanese sponge rose from $3.10-$3.30 per pound to about $3.60 per pound in January 1979, and in November 1979 it was announced that contract prices for Japanese sponge would be $6.50-$8.00 per pound beginning in April 1980.

World Production of Titanium Sponge Metal & U.S. Consumption of Titanium Concentrates In Short Tons

	Production of Titanium Sponge Metal[1]				U.S. Consumption of Titanium Concentrates, by Products										
					Ilmenite (TiO_2 Content)					Rutile (TiO_2 Content)					
Year	Central Economy Countries	Other Mkt. Econ. Count.	Japan	United States	Pigments (Mfg. TiO_2)	Welding Rod Coatings	Alloys & Carbide	Misc.	Total	Ceramics	Welding Rod Coatings	Alloys & Carbine	Pigments	Misc.	Total
1968		—	5,983	14,000	509,013	N.A.	1,133	207	510,353	N.A.	20.409	659	108,544	23.988	153,600
1969		—	7,100	16,000	540,403	208	1,199	30	541,840	451	20,987	—	124,718	31,934	178,090
1970		—	10,174	15,500	515,860	356	1,320	13	519,766	377	14,917	75	135,350	29,644	181,402
1971		2,500	7,470	12,000	479,316	474	1,104	6,955	486,271	390	13,107	N.A.	181,535	21,274	215,916
1972		2,500	5,133	13,000	453,248	N.A.	N.A.	8,174	461,422	N.A.	10,392	N.A.	199,894	21,945	232,231
1973		2,500	7,173	17,000	470,087	N.A.	N.A.	9,144	479,231	N.A.	10,059	N.A.	221,658	31,648	263,365
1974		2,500	9,825	20,000	492,206	N.A.	N.A.	9,070	501,276	N.A.	11,181	N.A.	228.507	38,032	277,720
1975[3]		2,500	8,358	18,000	424,302	—	—	8,107	432,409	—	9,782	—	181,128	28,013	218,923
1976[2]		2,100	6,995	14,000	490,845	—	—	7,168	498,013	—	7,736	—	194,950	20,926	223,612
1977[2]	39,000	2,400	7,049	N.A.	514,429	—	—	6,765	521,194	—	8,184	—	136,191	29,465	173,840
1978[2]	39,000	2,400	10,115	N.A.											
1979[2]	40,000	2,600	14,000	N.A.											

[1] Unconsolidated metal in various forms. [2] Estimated. [3] Preliminary. *Source: Bureau of Mines*

Average Prices in the United States

Year	Titanium Ilmenite—54% TiO_2 F.O.B. Atlantic Seaboard—$ per Long Ton	Titanium Rutile F.O.B. Atlantic & Great Lakes Ports, Last Quarter (Spot) $ per Short Ton	Titanium Metal Sponge, Yearend $ per Pound	Titanium Dioxide Rutile, Yearend $ per Pound
1972	23	175	1.32	
1973	27	310	1.42	
1974	47	710	2.25	
1975	55	710	2.70	0.435
1976	55	510	2.70	0.465
1977	55	360	2.98	0.485
1978	50	340	3.28	0.510
1979[1]	50	390	3.98	0.590
1980				

[1] Preliminary. *Source: U.S. Bureau of Mines*

World Production of Titanium Rutile Concentrates In Short Tons

Year	South Africa	Australia	USSR	Egypt	Brazil	Sierra Leone	India	Sri Lanka (Ceylon)	United States	World Total
1967	—	297,376	—	6	321	10,251	2,798	—	N.A.	310,752
1968	—	322,131	—	—	126	6,304	2,961	1,270	N.A.	332,792
1969	543	399,100	—	—	10	31,379	2,751	3,036	N.A.	436,819
1970	—	405,156	—	—	258	48,593	2,400	3,100	N.A.	459,507
1971	—	404,233	—	—	129	13,153	3,210	3,100	N.A.	423,825
1972	—	345,176	—	—	454	—	3,379	2,371	N.A.	351,380
1973	—	358,914	—	—	46	—	3,748	2,482	9,255	374,445
1974	—	351,308	30,000	—	161	—	6,400	3,450	6,446	397,765
1975	—	383,990	30,000	—	115	—	4,000	3,427	11,000	421,532
1976	—	435,791	30,000	—	141	—	4,400	1,146	N.A.	471,478
1977[1]	5,000	357,557	30,000	—	145	—	6,600	1,200	N.A.	395,502
1978[2]	20,000	293,000				—	——8,000——		N.A.	367,000
1979[2]	46,000	309,000					——10,000——			413,000
1980										

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

World Production of Titanium Ilmenite Concentrates[2] In Thousands of Short Tons

Year	Australia (Shipments)	Canada[3]	Sri Lanka (Ceylon)	Finland	India	Japan[3]	Malaysia (Exports)	Norway	Brazil	USSR	Spain	South Africa	United States[4]	World Total[2]
1967	610.3	602.5	58.6	139.9	45.8	6.3	100.1	469.1	16.5	—	40.9	—	935.1	3,037
1968	619.5	672.9	82.2	153.8	64.7	4.6	138.7	443.4	19.7	—	43.6	—	978.5	3,222
1969	794.2	749.2	91.3	152.3	56.7	10.1[5]	146.2	540.9	22.4	—	32.2	18.2	931.2	3,546
1970	988.8	844.7	93.2	166.4	86.0	12.2[5]	212.1	638.2	22.8	—	29.9	—	868.0	3,963
1971	914.1	853.0	102.4	153.8	72.8	8.7[5]	171.9	707.2	10.9	—	26.0	—	683.1	3,705
1972	791.6	920.4	90.9	164.8	100.4	6.0[5]	170.1	670.7	4.2	—	24.8	—	681.7	3,626
1973	792.7	942.7	103.0	175.3	85.1	7.1[5]	204.3	829.9	4.6	—	4.1	—	776.0	3,925
1974	916.6	931.2	93.9	167.6	146.0	4.9	169.2	934.9	7.4	338.0	—	—	744.6	3,519
1975	1,111	826.6	70.6	135.1	90.0	4.9	123.7	580.5	5.1	360.0	—	—	717.3	4,026
1976	1,097	907.2	61.5	135.1	100.0	3.8	198.4	845.1	16.1	420.0	—	—	652.4	4,437
1977[1]	1,191	783.7	66.0	137.5	150.0	1.4	169.4	913.1	16.5	440.0	—	—	638.5	4,508
1978[6]	1,388	937			158			846				100	590	4,872
1979[6]	1,260	580			160			850				330	550	4,590
1980														

[1] Preliminary. [2] Includes Ti slag containing approx. 70% TiO_2. [3] Represents titanium slag. [4] Includes a mixed product containing ilmenite, leucoxene, & rutile. [5] Includes slag & concentrate. [6] Estimate. *Source: Bureau of Mines*

Salient Statistics of Titanium[1] in the United States In Short Tons

	Ilmenite				Titanium Slag			Rutile		Exports of Titanium Products			
Year	Production (Gross Wt.)	Shipments (TiO_2)	Imports[3]	Stocks Dec. 31 (TiO_2)	Consumption (TiO_2)	Imports[3]	Stocks (TiO_2)	Imports[3]	Stocks Dec. 31 (TiO_2)	Ores & Concentrates	Metal & Alloy Sponge & Scrap	Dioxide & Pigments	Primary Forms
1967	935,091	463,286	170,585	483,001	86,945	N.A.	92,310	167,100	178,961	3,027	1,429	25,852	1,812
1968	978,509	506,260	178,154	504,087	100,591	N.A.	84,743	174,366	209,842	4,238	2,756	30,188	1,228
1969	931,247	480,918	28,524	475,960	98,075	82,329	73,308	204,898	187,183	1,424	2,802	24,507	1,773
1970	867,955	487,298	96,123	458,046	91,639	134,996	81,761	243,259	227,689	1,058	2,902	26,194	1,740
1971	683,075	388,802	28,093	383,113	101,751	152,661	76,741	227,784	225,925	1,760	1,711	26,759	430
1972	677,944	417,553	14,836	314,584	187,608	298,259	100,746	220,533	150,801	1,802	3,510	10,335	562
1973	776,013	458,541	69,691	329,477	199,287	237,248	78,650	226,860	139,641	1,494	4,142	20,769	745
1974	744,571	434,605	82,448	325,918	182,257	236,272	40,836	246,489	101,394	3,264	4,730	30,379	1,719
1975	717,281	404,269	122,010	378,181	104,585	212,682	62,130	224,499	131,742	3,147	4,326	15,807	1,900
1976	652,404	374,989	168,402	429,801	144,506	171,624	70,242	281,712	143,243	4,802	6,144	20,580	1,065
1977[1]	638,503	331,139	334,990	514,379	106,201	150,564	44,463	123,800	121,297	22,679	3,394	16,336	1,050
1978[2]	590,000							290,000	100,000		3,000		
1979[2]	550,000							302,000					
1980													

[1] Preliminary. [2] Estimate. [3] For consumption. *Source: Bureau of Mines*

Tobacco

The 1979 U.S. tobacco crop was an unusually low 1.5 billion pounds which resulted in a 1979/80 supply of 5.2 billion pounds, 7 percent below 1978/79. October 1, 1980 carryover stocks (July 1 for flue-cured) were expected to decrease due to the small crop and should total about 7 percent below the beginning level of 3.6 billion pounds on October 1, 1979.

Domestic Use

Cigarettes: Domestic consumption of U.S. cigarettes totaled 620 billion in 1979, 4 billion above 1978. Cigarette use has remained stable the last four years despite a larger smoking age population, in part due to continuing releases of studies of the health consequences of smoking and the rising anti-smoking publicity. In 1979, consumption per adult fell 1 percent to 196 packs of 20 cigarettes, the lowest level since 1957. However, cigarette production increased 1 percent in 1979 over 1978, to a record 705 billion as exports set another record of 79.7 billion (up 7 percent from 1978) and inventories increased.

The trend to low-tar and low-nicotine continued as sales of cigarettes containing 15 or fewer milligrams of tar accounted for 41 percent of the domestic cigarette market in 1979 compared with 33 percent in 1978. Almost all of these sales represent displacement of sales of brands with higher tar.

Cigar Use (including cigarillos): U.S. cigar smokers consumed 4.3 billion cigars in 1979, 7 percent fewer than 1978. Production of small cigars (less than 3 pounds per thousand) in 1979 fell to 1.5 billion, also off 7 percent from the year before. Total cigar use is expected to continue to decline as it has over the past several years.

Chewing tobacco and snuff production rose to the highest level since 1950. However, only fine cut and loose-leaf chewing tobacco and moist snuff output increased, while all other categories declined. Total 1979 chewing tobacco production rose 8 percent from 1978 to 102.3 million pounds. Total snuff production in 1979 fell 6 percent to 23.7 million pounds from 1978 as dry type snuff has declined in popularity.

Foreign Trade

The U.S. remains the world's leading tobacco exporter and the third largest importer. Over recent years, the U.S. has exported about one-third of its crop which represents about one-fifth of world exports. U.S. exports of tobacco and products were valued at a record $2.15 billion in 1979, slightly above the previous high in 1978. U.S. tobacco imports totaled $463 million, leaving a record trade balance of $1.7 billion.

The increase in value of exports in 1979 was due to higher prices as only exports of cigar wrapper gained, while virtually all other categories fell below the high level of exports in 1978.

European markets, which traditionally take six-tenths of U.S. tobacco exports, reduced 1979 imports from the U.S. by 29 percent from 1978 when important destinations like Spain, Sweden and Switzerland had bought heavily from the high quality 1978 crop to rebuild inventories. In 1979 Japan replaced the United Kingdom as the leading export market for U.S. tobacco but imported 6 percent less than in 1978. Exports to Japan are expected to decline in the future due to shifts in cigarette preference and blends that require less U.S. tobacco.

Cuba's 1980 tobacco crop was hard hit by field blue mold disease and prospects were sharply reduced. In 1979, the U.S. tobacco crop suffered from the most extensive outbreak of the disease ever recorded.

Flue-cured tobacco exports fell 19 percent in 1979 from 1978, but again made up three-fourths of total U.S. tobacco exports. The U.N. lifted trade sanctions against Rhodesia (Zimbabwe) in December 1979. In January 1980, the European Community (EC) accorded duty-free status to imports from Rhodesia. Rhodesia is expected to build up production and exports of leaf tobacco to pre-1966 levels. As a result, world export availability of flue-cured tobacco is expected to expand 5 percent. U.S. flue-cured tobacco production is expected to increase sharply in 1980 due to increased quotas and hoped-for more normal yields than in 1979.

Burley tobacco exports in 1979 declined 10 percent from 1978 as larger Asian purchases were offset by smaller European takings.

The 1980 Price Support Program

The 1980 price support program for tobacco is expected to be similar to that of previous years. Price support is available to eligible growers through nonrecourse loans to producer associations. To receive price supports, tobacco producers must certify that they did not use DDT, TDE, toxaphene or endrin insecticides. As a condition for flue-cured tobacco, growers will be required to designate a warehouse where they intend to sell their tobacco.

Farm quotas for 1980 are up 11 percent for flue-cured and 18 percent for burley tobacco. The USDA will again allow flue-cured growers participating in the 4-leaf program to exceed their acreage allotment.

Support prices for the 1980 crop are up 9.4 percent from 1979 as required by formula provision of the law. The national average loan level for the 1979 crop of flue-cured tobacco (Types 11–14) was 129.3 cents per pound vs. 121.0 in 1978. For 1979 crop burley tobacco, the national average loan rate was 133.3 cents per pound compared with 124.7 in 1978.

Growers of flue-cured, burley and sun-cured tobacco approved marketing quotas so price supports will be available for 1980, 1981, and 1982 crops. Growers of fire-cured, dark air-cured, cigar binder, and Ohio filler previously approved marketing quotas applicable to their 1980 crop. However, growers of Maryland and Pennsylvania filler tobacco again rejected marketing quotas and no price supports will be available through 1982.

World Production of Leaf Tobacco In Thousands of Metric Tons[5] (Farm Sales–Weight[3])

Year	United States	Brazil	Canada	China	U.S.S.R.	France	Greece	India	Indo-nesia	Italy	Japan	Paki-stan[4]	Philip-pines	Turkey	World Total[1]
1967	1,979	319	213		573	105	252	779	209	192	460	373	143	403	10,368
1968	1,721	335	219		575	117	194	813	242	159	426	373	185	356	9,833
1969	1,810	415	247		516	100	170	796	287	173	383	364	201	317	9,821
1970	1,911	432	222	1,700	569	106	200	743	240	173	332	360	218	330	10,021
1971	1,712	432	225	1,781	604	96	184	798	173	166	328	336	155	383	9,865
1972	1,754	421	187	1,852	516	109	188	924	165	176	318	192	107	401	10,155
1973	1,744	399	257	2,103	672	112	202	821	287	207	347	139	168	334	10,670
1974[5]	906.1	225.5	116.5	983.8	313.0	51.7	81.1	462.1	78.3	92.7	151.3	64.6	88.4	203.5	5,185
1975	994.0	285.6	106.1	959.8	298.0	56.3	118.2	394.8	82.2	113.4	165.7	78.0	66.3	208.6	5,369
1976	944.8	253.0	89.6	980.0	290.0	56.6	126.6	380.0	80.0	108.6	165.2	71.0	89.0	260.2	5,435
1977	869.3	310.0	104.3	975.0	302.0	43.6	118.9	414.2	75.9	109.7	173.2	72.6	84.3	245.2	5,450
1978[2]	919.8	330.0	115.6	975.0	280.0	50.5	130.2	493.6	78.9	109.7	172.0	76.3	79.2	288.2	5,616
1979[1]	715.3	399.0	83.6	965.0	297.0	52.2	122.1	451.2	89.2	111.0	157.5	68.2	82.3	242.1	5,438
1980															

[1] Estimated. [2] Preliminary. [3] Farm–Sales–weight is about 10% above dry weight which is normally reported in trade statistics. [4] Bangladesh (Formerly East Pakistan) excluded from 1972 to date. [5] Data prior to 1974 are in MILLIONS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*

Production and Consumption of Tobacco Products in the United States

	Production									Consumption[3] Per Capita[4]					
	Chewing Tobacco														
Year	Plug	Twist	Fine cut	Loose-leaf	Total	Cigar-ettes	Cigars[2]	Smoking Tobacco	Snuff	Cigars[2]	Cigar-ettes	Cigars[2]	Cigar-ettes	Smoking Tobacco	Total Pdt.'s
	Million Pounds					Billion		Million Lbs.		Number		Pounds			
1967	23.7	2.6	4.1	34.0	64.4	567.2	6.36	64.8	29.3	130.7	4,280	2.28	8.86	1.08	10.79
1968	22.9	2.6	4.3	35.7	65.4	579.5	7.18	66.3	27.1	126.5	4,186	2.15	8.69	1.11	10.59
1969	23.3	2.5	4.5	39.5	69.8	557.6	6.93	63.9	27.6	125.0	3,993	2.11	8.11	1.08	10.04
1970	22.0	2.4	4.8	39.5	68.7	583.2	7.09	69.4	26.5	125.3	3,985	2.08	7.77	1.15	9.68
1971	20.6	2.4	5.1	43.2	71.4	576.4	6.71	60.5	26.4	119.2	4,037	1.94	7.75	1.06	9.52
1972	19.6	2.2	5.2	45.6	72.6	599.1	6.03	55.9	25.5	108.9	4,043	1.74	7.95	1.00	9.65
1973	18.6	2.2	5.7	47.6	74.0	644.2	5.66	53.0	25.3	102.4	4,148	1.61	7.92	.88	9.53
1974	18.0	2.2	6.2	52.9	79.2	635.0	5.28	49.0	25.0	91.9	4,141	1.47	7.90	.87	9.40
1975	18.1	2.3	7.3	53.7	81.5	651.2	4.52	46.2	24.4	82.4	4,123	1.32	7.73	.76	9.14
1976	16.7	2.3	8.4	56.3	83.7	693.4	4.18	44.6	24.8	75.0	4,092	1.20	7.35	.75	8.69
1977	16.4	2.2	10.1	61.3	90.0	665.9	3.93	40.7	24.6	67.9	4,051	1.15	7.21	.65	8.49
1978	15.9	2.1	12.0	64.6	94.6	695.9	3.80	36.4	25.1	63.4	3,967	1.15	6.89	.60	8.10
1979[1]	15.3	2.0	13.3	71.7	102.3	704.4	3.60	32.8	23.7	59.0	3.924	1.07	6.75	.52	7.91
1980															

[1] Preliminary. [2] Large cigars & cigarillos. [3] Consumption of tax-paid tobacco products; Represents unstemmed equivalent of tobacco used in the manufacture of these products. [4] 18 years old & over.
Sources: Bureau of the Census; Internal Revenue Service

Production of Tobacco in the United States In Millions of Pounds

Year	Conn.	Florida	Georgia	Indiana	Ken-tucky	Mary-land	Massa-chusetts	North Car.	Ohio	Pa.	South Car.	Tenn.	Virginia	Wis-consin	U.S. Total
1967	9.0	31.6	150.3	13.8	400.1	32.4	3.2	834.7	21.1	38.3	165.7	110.3	132.0	16.1	1,968
1968	9.5	26.5	107.7	13.3	413.9	32.0	3.5	667.4	18.8	37.3	122.4	121.7	112.7	14.0	1,710
1969	7.3	26.0	97.9	14.8	436.8	28.0	3.2	716.0	21.9	37.5	136.7	120.8	134.6	13.2	1,803
1970	8.7	28.9	133.3	14.6	411.9	29.4	3.6	815.5	20.8	30.1	141.1	114.3	125.8	18.4	1,906
1971	7.6	25.6	115.1	12.1	356.3	28.1	2.9	727.1	17.5	24.5	133.2	105.6	118.4	22.5	1,705
1972	5.6	23.5	115.2	15.5	446.7	23.8	1.9	680.4	22.5	18.2	131.1	124.7	112.1	18.7	1,749
1973	6.8	24.0	97.9	10.6	320.9	31.5	2.0	811.9	15.9	22.1	132.7	101.3	138.1	19.0	1,742
1974	7.9	27.8	161.4	16.7	452.0	30.2	2.4	789.2	23.1	26.0	172.0	110.9	141.6	18.5	1,990
1975	6.4	29.6	151.0	17.0	456.7	21.9	2.0	957.0	23.7	19.8	189.0	134.6	142.1	20.8	2,182
1976	7.2	30.8	123.8	18.2	497.4	29.9	1.8	902.9	23.3	23.6	153.4	139.7	153.9	20.2	2,136
1977	5.6	24.8	134.9	16.6	452.0	30.1	1.9	744.5	22.7	26.2	138.7	136.7	143.0	24.4	1,912
1978	5.0	22.1	125.7	15.5	469.7	30.6	1.5	849.4	22.5	25.2	150.5	142.1	135.2	20.3	2,024
1979[1]	4.9	22.6	101.0	13.0	347.0	26.4	1.5	622.6	16.4	22.1	117.7	105.4	113.4	25.1	1,547
1980															

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

TOBACCO

U.S. Salient Statistics for Flue-Cured Tobacco (Types 11–14)

Crop Year	Acres Harvested 1,000	Yield Per Acre 100 Lbs.	Production	Stocks, July 1	Total Supply	Exports	Dom. Disappearance	Total Disappearance	Farm Price ¢ Lb.	Crop Value Mil. $	Parity Price[2]	Price Support Level	Placed Under Gov't Loan	Under Loan July 1
			Millions of Pounds								¢ Lb.		Mil. Lb.	
1967	610.3	20.7	1,250	2,273	3,523	533	688	1,221	64.2	803	84.6	59.9	282.1	685.4
1968	533.0	18.4	996	2,302	3,297	525	672	1,197	66.6	663	86.7	61.6	128.8	773.4
1969	576.8	18.3	1,053	2,100	3,153	535	646	1,181	72.4	762	92.6	63.8	97.6	800.5
1970	584.1	20.4	1,178	1,972	3,151	534	640	1,174	72.0	848	96.3	66.6	144.2	744.9
1971	525.8	20.5	1,076	1,976	3,053	480	663	1,143	77.2	832	101.0	69.4	55.7	761.9
1972	513.6	19.7	1,022	1,910	2,932	519	664	1,183	85.3	864	106.0	72.7	24.3	617.8
1973	575.1	20.1	1,159	1,749	2,908	598	703	1,301	88.1	1,019	123.0	76.6	30.7	402.3
1974	617.3	20.1	1,245	1,607	2,852	548	652	1,201	105.0	1,307	136.0	83.3	23.0	276.7
1975	717.2	19.7	1,415	1,652	3,067	522	671	1,193	99.8	1,442	150.0	93.2	259.0	179.9
1976–7	666.6	19.7	1,316	1,898	3.214	514	634	1.148	110.4	1,453	155.0	106.0	277.3	359.2
1977–8	589.3	19.2	1,124	2,075	3,199	539	608	1.147	117.6	1.329	162.0	113.8	195.6	556.9
1978–9	589.0	20.9	1,206	2,051	3,258	599	584	1,183	135.0	1,663	176.0	121.0	64.1	534.0
1979–0[1]	500.0	18.9	974	2,075	3,049	510	580	1,090	140.1	1,365	203.0	129.3	70.4	564.0
1980–1												141.5		

[1] Preliminary. [2] As of applicable date when support level was computed. [3] Farmers' intentions as of March 1.
Source: Agricultural Marketing Service, U.S.D.A.

U.S. Salient Statistics for Burley Tobacco (Type 31)

Crop Year	Acres Harvested 1,000	Yield Per Acre 100 Lbs.	Production	Stocks, Oct. 1	Total Supply	Exports	Dom. Disappearance	Total Disappearance	Farm Price ¢ Lb	Crop Value Mil. $	Parity Price[2]	Support Level	Placed Under Gov't. Loan	Under Loan on Oct. 1
			Millions of Pounds								¢ Lb.		Mil. Lb.	
1967	237.7	22.7	541	1,382	1,922	53	545	598	71.8	388	88.1	61.8	64.2	276.7
1968	237.6	23.7	563	1,324	1,888	55	516	571	73.7	415	91.1	63.5	56.2	321.7
1969	237.7	24.9	591	1,317	1,908	58	507	565	69.6	411	96.5	65.8	158.2	340.8
1970	216.4	25.9	561	1,343	1,903	54	503	557	72.2	405	101.0	68.6	47.7	454.8
1971	213.5	22.1	473	1,346	1,818	55	515	570	80.9	382	104.5	71.5	.2	468.4
1972	235.6	25.5	590	1,249	1,839	75	535	610	79.2	476	111.0	74.9	22.9	327.6
1973	222.1	20.3	461	1,229	1,691	87	533	619	92.9	418	129.0	78.9	.7	276.7
1974	260.7	23.5	610	1,071	1,681	68	519	587	113.7	694	147.0	85.8	2.8	139.2
1975	282.2	22.7	639	1,094	1,733	92	511	603	105.6	674	158.0	96.1	50.7	12.0
1976–7	285.8	23.8	664	1,160	1,824	117	500	617	114.2	775	160.0	109.3	46.6	44.8
1977–8	268.6	23.0	613	1,217	1,830	116	493	609	120.0	741	166.0	117.3	57.0	54.9
1978–9	261.0	24.0	618	1,218	1,836	121	503	624	131.0	822	184.0	124.7	67.7	113.5
1979–0[1]	239.2	19.1	480	1,212	1,692	125	500	625	145.6	700	208.0	133.3	1.0	155.4
1980–1												145.9		

[1] Preliminary. [2] As of applicable date when support level was computed. [3] Farmers' intentions as of March 1.
Source: Agricultural Marketing Service, U.S.D.A.

Exports[1] of Tobacco from the United States In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	36.9	34.0	39.1	53.3	48.1	39.4	31.4	43.5	59.4	50.7	66.8	68.8	571.6
1968	44.3	44.8	28.8	36.9	43.7	45.6	43.7	63.9	73.4	38.8	71.3	63.6	598.9
1969	8.1	4.2	42.4	39.6	66.5	55.5	43.5	43.1	61.7	62.3	74.7	77.3	579.1
1970	20.5	28.2	41.1	38.3	39.9	42.3	34.7	29.6	46.8	53.7	72.8	62.5	510.3
1971	39.3	32.3	52.4	44.5	47.4	39.8	35.4	41.8	76.8	3.5	2.4	59.6	474.2
1972	95.4	87.0	28.6	17.9	42.7	33.3	39.2	40.5	48.3	54.1	63.1	56.2	606.2
1973	43.1	45.3	45.6	43.6	46.2	45.3	40.1	40.6	54.6	70.2	81.9	56.6	613.0
1974	53.5	47.6	39.1	52.7	57.7	62.8	45.2	47.6	40.0	64.1	73.0	68.3	651.4
1975	57.1	33.5	52.5	46.7	44.2	32.1	23.2	39.5	44.9	52.7	73.9	62.9	563.0
1976	93.2	52.0	47.1	43.5	29.7	26.0	23.9	34.7	48.2	52.9	51.3	75.6	578.0
1977	76.8	53.0	54.7	31.3	38.0	41.5	49.6	47.5	66.3	17.9	49.5	102.4	628.6
1978	52.5	55.6	73.2	40.9	32.3	29.2	42.7	52.3	41.3	85.8	95.8	86.3	687.8
1979	35.6	50.1	57.1	51.8	42.2	25.3	38.0	29.5	30.1	41.6	78.9	81.5	561.8
1980	28.0	52.5											

[1] Represents unmanufactured tobacco, including stems, trimmings and scrap. *Source: Department of Commerce*

Salient Statistics of Tobacco in the United States

Year	Acres Harvested 1,000 Acres	Yield Per Acre Lbs.	Production Million Lbs.	Farm Price ¢ Lb.	Farm Value Mil. $	Tobacco (July–June) Exports[2]	Tobacco (July–June) Imports[3]	U.S. Exports of Cigarettes	U.S. Exports of Cigars & Cheroots	U.S. Exports of Chewing Tobacco & Snuff	U.S. Exports of Smoking Tobacco	Stocks of Leaf Tobacco[4] All Types Jan. 1	April 1	July 1	Oct. 1
						Mil. Lbs.	Mil. Lbs.	Millions	Millions	1,000 Lbs.	1,000 Lbs.	Billion Pounds	Billion Pounds	Billion Pounds	Billion Pounds
1967	960	2,050	1,968	66.8	1,316	564.8	218.9	23,651	76	318	17,270	5,353	5,339	4,880	4,995
1968	879	1,945	1,710	69.5	1,189	516.0	210.7	26,461	66	210	23,355	5,486	5,312	4,858	4,938
1969	918	1,964	1,803	71.8	1,296	571.0	210.1	24,969	65	33	21,246	5,179	5,005	4,590	4,771
1970	898	2,122	1,906	72.9	1,389	554.7	223.9	29,163	54	64	25,022	4,940	4,822	4,439	4,650
1971	838	2,035	1,705	78.6	1,340	524.2	259.1	31,812	53	39	32,086	5,006	4,763	4,371	4,474
1972	842	2,076	1,749	83.0	1,451	569.1	250.3	34,602	75	42	30,425	4,828	4,531	4,186	4,405
1973	887	1,965	1,742	90.1	1,569	657.4	294.2	41,543	107	93	27,084	4,700	4,459	4,039	4,196
1974	963	2,067	1,990	108.6	2,160	604.0	322.4	46,901	86	121	39,848	4,409	4,215	3,762	4,129
1975	1,086	2,008	2,182	102.6	2,238	588.2	313.3	49,935	92	71	19,187	4,457	4,315	3,944	4,312
1976	1,045	2,045	2,136	112.5	2,404	581.8	293.7	61,370	124	75	14,727	4,738	4,568	4,166	4,608
1977	958	1,997	1,913	118.6	2,269	617.0	335.7	66,845	107	95	10,679	4,978	4,797	4,431	4,710
1978[1]	948	2,135	2,024	132.4	2,679	671.9	359.7	74,359	166	104	3,479	5,008	4,781	4,451	4,728
1979[1]	830	1,864	1,547	140.6	2,176			79,700	177			5,071	4,905	4,518	4,928
1980[1]												4,883			

[1] Preliminary. [2] Domestic. [3] For consumption. [4] Owned by dealer & mfgrs., converted to a farm-sales weight equivalent. [5] Farmers' intentions to plant, MARCH 1. *Source: Department of Agriculture*

Tobacco Production in the U.S., by Types In Million Pounds (Farm–Sales Weight)

Types	11–14	31	32	21	22–23	35–36	37	41	42–44	72	51–52	54–55	61–62
1967	1,263	541	32.4	7.0	29.5	15.5	1.3	38.3	3.6	.1	2.7	16.1	17.6
1968	982	563	31.9	5.9	32.6	18.0	1.2	37.3	3.4	.2	2.8	14.0	18.1
1969	1,053	591	28.1	6.7	34.1	18.2	1.3	36.5	2.8	.1	2.3	13.2	15.9
1970	1,193	561	29.4	6.2	30.9	15.4	1.1	30.6	2.9	.2	2.9	18.4	14.9
1971	1,078	473	28.1	5.9	37.6	15.7	1.1	24.5	3.8	.2	2.8	22.5	12.4
1972	1,012	601	23.8	4.7	37.5	15.5	.8	18.2	4.2	.1	2.5	18.7	9.7
1973	1,157	450	31.5	5.7	27.7	12.4	.9	22.1	3.1	.2	2.7	19.0	9.8
1974	1,241	613	30.2	5.9	26.0	11.6	.9	26.0	3.1	.1	2.5	18.5	11.0
1975	1,415	639	21.9	4.9	32.6	14.0	.7	19.8	3.0	.1	2.4	20.8	7.7
1976	1,316	679	29.9	5.3	33.2	15.1	.8	23.6	2.8	.1	2.4	20.2	7.2
1977	1,130	617	30.1	7.2	45.2	20.4	.8	26.2	3.6	.1	2.5	24.4	5.3
1978	1,231	626	30.6	6.8	51.5	22.2	.9	25.2	3.0	.1	2.6	20.3	3.8
1979[1]	945	457	26.4	5.5	40.0	16.6	.7	22.1	2.4	.1	2.3	25.1	4.1
1980													

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

U.S. Exports of Unmanufactured Tobacco to Principal Importing Countries

In Millions of Pounds (Declared Weight)

Year	Australia	Belg.-Luxem.	Denmark	France	W. Germany	Thailand	Ireland	Japan	Netherlands	Norway	Italy	Sweden	Switzerland	United Kingdom	Total U.S. Exports
1967	13.3	17.5	16.4	6.3	114.3	23.2	14.3	27.0	40.5	8.4	7.1	19.3	21.4	137.6	571.6
1968	19.7	20.1	19.2	6.9	88.6	28.9	15.0	48.8	44.0	9.7	5.0	16.9	24.8	146.7	598.8
1969	20.2	17.4	19.1	8.6	102.2	24.3	10.5	40.9	33.6	7.2	19.5	13.9	26.4	134.2	577.5
1970	10.2	12.4	18.1	9.0	92.6	20.1	10.2	53.6	26.6	8.1	3.1	19.5	24.7	95.5	510.4
1971	10.9	15.6	16.7	10.1	100.0	18.9	9.0	18.6	28.1	4.3	16.4	14.7	18.2	89.8	473.3
1972	14.8	12.9	20.8	7.7	99.3	30.5	14.3	87.3	22.4	7.0	23.1	20.5	23.5	115.1	606.1
1973	13.9	16.7	37.0	6.6	99.9	8.6	8.9	79.0	31.6	5.7	21.8	17.1	31.4	119.7	612.5
1974	18.7	14.4	12.6	8.2	97.1	20.6	10.2	109.6	31.0	5.4	24.3	14.5	21.3	94.3	651.4
1975	15.5	8.1	16.4	9.5	91.0	18.7	8.2	81.5	29.9	5.6	31.5	15.3	25.9	78.5	563.0
1976	10.3	7.5	9.0	8.3	73.7	21.8	7.7	132.7	24.7	5.5	33.2	14.1	24.4	71.8	578.1
1977	14.2	10.4	16.9	6.3	78.9	16.0	5.4	135.4	30.5	6.0	40.6	11.8	28.8	46.8	628.6
1978	12.4	16.9	27.1	9.8	53.2	18.2	5.3	102.3	34.2	4.2	41.0	17.5	26.2	148.8	700.0
1979[1]	12.4	5.4	16.4	11.5	67.7	18.8	6.9	95.9	29.3	5.7	34.8	13.7	19.3	68.2	567.4
1980															

[1] Preliminary. *Source: Bureau of the Census*

Tung Oil

World production of tung oil (including oil equivalent of seed production) in 1979/80 was estimated by the Foreign Agricultural Service of the USDA in March 1980 at 100,000 tonnes, off 5 percent from the revised estimate of 105,000 tonnes for 1978/79 but slightly larger than production in 1977/78.

The United States is the world's largest importer of this industrial oil. U.S. imports of tung oil in 1979 were up 12 percent to 9,089 tonnes from 8,125 tonnes in 1978, due to an 80 percent increase in shipments from the People's Republic of China. Other major importers of tung oil are the Soviet Union, Japan, Poland, and the Federal Republic of Germany.

The People's Republic of China is, by far, the world's largest producer of tung oil, followed in most years by Argentina and Paraguay. These three countries are also the major exporters of tung oil.

Supply and Distribution of Tung Oil in the United States In Thousands of Pounds

Year	Stocks Jan. 1	Production	Imports	Exports[3]	Total Supply	Appar. Disappearance	Factory Consumption: Total	Paint & Varnish	Linol. & Oilcloth	Printing Ink	Lubricants[2]	Resins & Plastics	Drying Oil Ind.	Acquired By CCC Oil
1969	60,700	5,000	22,464	1,800	86,400	31,404	31,300	21,400	[4]	[4]	[4]	5,000	31,000	5,500
1970	54,902	4,000	18,151	2,110	74,943	28,233	28,400	20,000				3,900	28,000	5,700
1971	47,710	100	22,239	1,962	68,087	23,282	27,200	17,100				3,700	23,000	3,800
1972	44,703	2,250	21,597	1,257	67,273	33,307	31,800	18,100				3,800	31,000	100
1973[1]	33,986	500	21,796	1,955	54,327	28,589	31,000	20,000				4,000	28,000	2,300
1974[1]	25,738	—	21,037	700	46,075	34,858	34,000	24,000				2,000	35,000	—
1975[1]	11,217	—	30,063	1,700	39,580	33,228	43,000	26,000				4,000	33,000	—
1976[5]	6,352	—	34,509	1,600	39,261	36,961	25,000						35,000	—
1977[5]	2,300	—	18,800	1,200	19,900	16,900	20,100						19,000	
1978[5]	3,000						16,900							
1979														

[1] Preliminary. [2] Also including greases. [3] Also including re-exports. [4] Included in misc. to avoid disclosure of figures for individual companies. [5] Estimate. *Source: Economic Research Service, U.S.D.A.*

Average Price of Tung Oil[1] (Imported-Drums) F.O.B. New York In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1969	14.8	14.8	14.8	14.8	14.8	14.8	17.1	17.8	17.8	19.4	20.2	24.0	17.1
1970	24.0	23.9	25.4	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	25.6
1971	26.0	26.0	26.0	26.0	26.0	24.0	18.0	16.1	15.5	15.5	15.5	15.5	20.8
1972	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
1973	15.5	15.5	15.5	15.5	17.1	20.0	N.A.	N.A.	31.0	31.2	33.8	35.0	23.0
1974	35.0	36.0	39.0	39.0	38.3	35.5	35.5	35.5	35.0	35.2	38.9	41.0	37.0
1975	41.0	41.0	41.0	41.0	41.0	41.0	41.0	35.4	32.2	33.0	33.0	33.0	37.8
1976	33.0	33.2	34.0	34.0	33.8	37.0	54.0	65.0	65.0	65.0	65.0	65.0	48.7
1977	65.5	72.7	97.0	142.4	147.0	147.0	128.2	100.0	100.0	100.0	100.0	100.0	108.3
1978	100.0	100.0	100.0	100.0	100.0	100.0	100.0	87.5	87.5	87.5	68.5	66.4	91.5
1979	68.9	68.9	67.9	69.0	69.0	69.0	69.0	69.0	62.5	55.0	51.0	51.0	64.2
1980	51.0	55.1											

[1] Carlots, imported, f.o.b. New York. *Source: Economic Research Service, U.S.D.A.*

Utilization of Oils and Fats in Drying-Oil Industries in the United States[1] In Millions of Pounds

Year	Linseed Oil	Tall Oil	Tung Oil	Oiticica Oil	Castor Oil	Fish Oil	Soybean Oil	Other Primary Fats & Oils	Secondary Fatty Materials	Total
1969	271	88	31	12	61	63	191	22		738
1970	230	75	28	—	28	25	169	49		604
1971	276	71	23	—	39	28	148	44		631
1972	206	73	31	—	54	32	141	33		570
1973	322	79	28	—	46	24	142	45		686
1974	194	67	35	—	26	27	172	42		563
1975	125	55	33	—	5	16	144	51		429
1976	170	71	35	—	39	10	164	58		547
1977[2]	156	85	19	—	63	11	172	37		543
1978										

[1] Paint, varnish, linoleum, oilcloth, and printing ink. [2] Preliminary. *Source: Economic Research Service, U.S.D.A.*

Tungsten

In 1979, the U.S. continued to depend on imports for the bulk of its needs. Imports for consumption of tungsten concentrate increased 20 percent and totaled 11 million pounds of tungsten. These imports were valued at $83 million (about $120 per short ton unit (stu) of tungsten trioxide (WO_3), excluding U.S. duty). The major sources of imported concentrate in 1979 were: Canada, 27 percent; Bolivia, 26 percent; Thailand and mainland China, 11 percent each; Peru, 8 percent; and Mexico, 6 percent.

Annual consumption of tungsten products increased 6 percent to 19.4 million pounds of tungsten during 1979. Major end use was as follows: Tungsten carbide cutting and wear resistant materials (including welding and hard facing rods and materials), 65 percent; tungsten metal mill products, 17 percent; tool, alloy, stainless, and heat-resisting steels, 11 percent; superalloys, 3 percent; chemicals and ceramics, 2 percent; and other uses, 2 percent.

In 1979, the European price of tungsten concentrate, as quoted in the *Metal Bulletin* (London), ranged from $115 to $151 per metric ton unit (104.33 to $136.99/stu) and averaged $127/stu. The U.S. spot quotation in *Metals Week* ranged from $107.50 to $140.50/stu and averaged $128/stu for the year.

The General Services Administration sold 5.3 million pounds of tungsten in excess stockpile tungsten concentrate during 1979, of which 3.4 million pounds was for domestic use and 1.9 million pounds was for export. The sales were made on the basis of monthly sealed bids (5.1 million pounds) and for defense contracts (0.2 million pounds). Actual shipments totaled 5.7 million pounds.

A meeting was held in Geneva, Switzerland, during September 1979, by the Preparatory Working Group for Tungsten of the United Nations Conference on Trade and Development (UNCTAD) in an effort to resolve a 16-year deadlock between producing and consuming countries concerning the stabilization of the world tungsten market. No agreement was reached, but the Trade and Development Board of UNCTAD in October requested its Committee on Tungsten to review its past work, to determine guidelines for reaching an agreement, and to convene a meeting of the committee no later than March 1980.

The Bureau of Mines continued to conduct research on economic extractive methods to recover tungsten from low-grade brines, tactites, and hot springs deposits. Studies were also made on improving the oxidation and corrosion resistance of steel using low-temperature chemical vapor deposition from organometallic compounds, including those containing tungsten.

World Mine Production of Tungsten In Thousand Pounds (60% WO_3 Basis)

Year	Japan	Argentina	Australia	Bolivia	Brazil	Burma	China	Rep. of Korea	Canada	Portugal	Spain	Thailand	U.S.S.R.	United States	World Total
1967	862	235	2,118	3,401	638	338	17,600	4,464	220	2,416	176	956	13,600	8,649	62,725
1968	1,177	408	2,549	3,904	957	430	17,600	4,614	2,855	3,049	273	1,096	13,700	7,496	68,380
1969	1,343	322	2,756	4,059	1,914	353	17,600	4,345	3,223	2,934	443	1,442	14,300	6,904	70,749
1970	1,882	317	2,800	4,068	2,549	487	13,200	4,564	2,956	2,390	899	1,565	14,800	9,625	71,360
1971	1,609	304	3,184	4,608	2,989	842	15,400	4,784	3,667	2,176	897	5,527	15,400	6,900	78,055
1972	1,980	348	3,487	4,954	2,515	1,213	16,500	3,966	3,527	3,093	798	7,370	15,900	8,150	84,952
1973	2,072	183	2,917	4,264	2,194	1,133	17,600	4,504	3,680	3,336	690	5,295	16,300	7,575	83,612
1974	1,786	207	3,128	4,471	2,189	750	18,700	5,046	2,822	3,236	765	4,497	16,800	7,381	82,832
1975	1,693	190	4,145	5,661	2,496	1,091	19,800	5,298	2,584	3,139	774	3,609	17,200	5,588	84,508
1976	1,795	207	5,401	6,700	2,160	1,032	19,800	5,655	3,792	2,813	611	4,180	17,600	5,830	91,767
1977[1]	1,704	183	5,143	6,572	2,200	983	19,800	5,573	3,994	2,227	595	4,486	18,100	6,008	93,630
1978[2]			7,449	6,989	2,600	1,477		5,911	5,045	2,434		6,486		6,901	103,674
1979[2]			8,500	7,000	2,600	1,500		6,000	6,000	2,600		4,000		6,600	106,700
1980															

[1] Preliminary. [2] Estimate. *Source: Bureau of Mines*

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TUNGSTEN

Salient Statistics of Tungsten in the U.S. In Thousands of Pounds of Contained Tungsten

			Consumption of Tungsten Products by End Uses										Stocks at End of Year	
				Steel										
Year	Production[1]	Shipments From Mines[1]	Total Consumption	Tool	Stainless & Heat Assisting	Alloy Steel[3]	Super alloys	Cutting & Wear Resistant Materials	Pdt's Made From Metal Powder	Cast Irons	Chemicals & Ceramic	Exports	Consumers & Dealers	Producers[1]
1967	8,465	7,842	13,860	N.A.	N.A.	655	N.A.	N.A.	N.A.	N.A.	164	974	1,134	1,007
1968	8,663	9,042	11,038	N.A.	N.A.	322	N.A.	N.A.	N.A.	N.A.	362	623	574	626
1969	7,805	7,910	13,053	1,951	N.A.	381	N.A.	7,275	2,898	N.A.	406	7,151	1,006	519
1970	9,625	9,312	16,700	1,475	N.A.	185	N.A.	7,028	3,306	N.A.	N.A.	19,470	1,467	787
1971	6,900	6,827	11,622	1,420	187	149	209	5,082	2,044	16	381	2,006	2,657	863
1972	8,150	7,045	14,107	1,451	173	157	429	6,657	2,525	14	179	95	2,229	1,966
1973	7,575	7,059	15,386	2,015	211	353	606	10,000	2,660	6	444	90	1,446	225
1974	7,381	7,836	16,298	2,045	258	641	607	12,239	2,673	1	159	1,187	1,565	529
1975	5,588	5,490	14,012	892	158	139	379	8,355	1,490	4	310	1,316	1,958	531
1976	5,830	5,869	16,107	1,133	126	244	435	10,402	2,432	4	704	1,729	1,002	150
1977[2]	6,008	6,022	17,100	1,124	175	262	527	10,880	2,482	2	275	1,283	826	124
1978[4]		6,901	18,806	1,310	236	156	441	10,505	2,750		382	1,853	1,424	
1979[4]		6,600	22,000	1,500	300	170	600	8,000	3,500		450	1,400	1,900	
1980														

[1] Primary concentrates. [2] Preliminary. [3] Other than tool. [4] Estimate. *Source: Bureau of Mines*

U.S. Imports[1] of Tungsten Ores and Concentrates and Ferrotungsten
In Thousands of Pounds (Tungsten Content)

	Tungsten Ores and Concentrates Imported (For Consumption)											Ferrotungsten Imported			
Year	Australia	Bolivia	Brazil	Canada	Rep. of Korea	Mexico	Portugal	Spain	Peru	Total 1,000 Pounds	Value Mill $	Austria	France	West Germany	Total 1,000 Lbs.
1967	172	90	—	463	34	12	480	—	369	1,699	3.8	0	0	0	0
1968	73	55	—	1,035	—	2	40	—	506	1,743	3.3	0	0	0	0
1969	101	—	—	1,046	—	1	99	—	256	1,503	3.4	0	0	0	0
1970	—	—	—	1,234	—	12	—	—	38	1,284	3.2	0	0	0	0
1971	58	—	—	203	—	81	—	—	76	418	1.0	0	0	0	30
1972	392	780	124	1,634	370	90	9	—	814	5,739	12.1	25	10	88	814
1973	320	2,183	465	3,311	548	348	176	79	1,039	10,834	23.7	333	26	157	1,107
1974	87	2,065	266	1,633	364	336	1,635	95	1,375	11,096	40.7	235	112	—	808
1975	390	787	187	1,600	513	419	197	14	866	6,570	31.7	132	34	18	418
1976	172	580	2	1,343	202	417	420	21	863	5,301	28.3	260	246	53	844
1977[2]	128	1,580	108	2,046	69	647	199	—	626	6,919	55.9	282	—	18	505
1978[3]	211	2,012	2	3,030	230	850	—	—	180	9,138		241	110	63	575
1979[3]	300	3,000	30	3,200	100	700	200	10	900	11,500		120	100	30	500
1980															

[1] Imports for consumption. [2] Preliminary. [3] Estimate. *Source: Bureau of Mines*

Average Price of Tungsten Ore[1] (Wolframite) in New York In Dollars per Short Ton Unit (15.862 Lbs.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1967	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00
1968	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00
1969	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00
1970	43.00	43.00	43.00	43.00	43.00	43.00	55.00	55.00	55.00	55.00	55.00	55.00	49.00
1971	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
1972	$39.59 Avg. Price C.I.F. U.S. Ports, Duty Paid, Per STU of WO_3												
1973	$14.22 Avg. Price C.I.F. U.S. Ports, Duty Paid, Per STU of WO_3												
1974	$83.93 Avg. Price C.I.F. U.S. Ports, Duty Paid, Per STU of WO_3												
1975	$87.16 Avg. Price C.I.F. U.S. Ports, Duty Paid, Per STU of WO_3												
1976	$107.65 Avg. Price C.I.F. U.S. Ports, Duty Paid, Per STU of WO_3												
1977	$159.00 Avg. Price C.I.F. U.S. Ports, Duty Paid, Per STU of WO_3												
1978	$126.40 Avg. Price C.I.F. U.S. Ports, Duty Paid, Per STU of WO_3												
1979	$123.00 Avg. Price C.I.F. U.S. Ports, Duty Paid, Per STU of WO_3												
1980													

[1] Duty excluded, "ordinary quality" per unit (1%). *Source: American Metal Market*

Turkeys

The 1979 turkey crop totaled a record 156.5 million head, up 12.7 percent from 138.9 million in 1978. Excellent profits prompted producers to continue expanding output into 1980. In late 1979, producers in the 20 major producing states indicated that they planned to raise 9 percent more birds in 1980 than they did in 1979. The inventory of breeder hens indicated there would be ample eggs to meet intentions; the December 1, 1979, hen inventory of 3.7 million was up 10 percent from 3.370 million a year earlier.

Turkey meat output in federally inspected slaughter plants was a record 2,182 million pounds (ready-to-cook weight) in 1979, up 10 percent from the 1978 kill. The number of turkeys inspected increased nearly 11 percent, but the average weight was off 1 percent. The large production, and reduced movement through retail channels late in 1979 because of higher retail prices, pushed January 1, 1980 cold storage stocks to 240 million pounds, up 65 million pounds from a year earlier and the highest January 1 figure since 1975. Nevertheless, the USDA was expecting first-quarter 1980 production to increase 35 percent from the 1979 record, followed by about a 20 percent gain in the second quarter.

The trend toward further processing of turkey meat continued in 1979. Further-processed turkey meat, other than whole birds, totaled 800 million pounds, equal to about 37 percent of total certified ready-to-cook federally inspected slaughter and more than 12 percent over 1978 production. Further processing of whole bird turkeys (which have been injected, basted, marinated or smoked and then packaged whole) increased 7 percent to 538 million pounds. Cut-up turkey output increased 13 percent to 526 million pounds.

Per capita consumption was estimated at a record 9.9 pounds for 1979, compared with 9.3 pounds for 1978. Consumption per person gained less than production because of a growing population and a buildup in cold storage stocks in 1979.

USDA Purchases

The USDA bought the equivalent of 96 million pounds of ready-to-cook turkey for use in school lunches and other domestic food programs in 1979. Of this, 76 million pounds were purchased under the 1979 program and 20 million were bought under the 1978 program. The 1979 calendar year purchases included 46 million pounds of young turkey, 980,000 pounds of bulk-pack turkey and 31 million pounds of cooked turkey rolls. Purchases in 1978 equaled 80 million pounds (ready to cook) at a cost of $56 million.

Prospects for the Second Half of 1980

Turkey prices were expected to average below year-ago levels during the second half of 1980, con-

Salient Statistics of Turkeys in the U.S.

	Breeder Hens on Farms—Dec. 1			(Liveweight)			Ready-to-Cook Basis			Consumption			In Cents Per Lb.			
											Civilian		Production Costs Live-Weight		Wholesale Ready-to-Cook	
Year	Number	$ Value Per Head	Raised	Produced Million Lbs.	Price ¢ Lb.	Gross Income Million $	Production	Commercial Storage Jan. 1	Exports & Shipments	Military	Total	Per Capita Lb.	Feed	Total	Total Costs	3 City Composite Price
	In Millions						Million Pounds									
1967	4.1		126.6	2,343	19.5	460	1,870	267	49	53	1,668	8.6				
1968	3.4		106.7	2,015	20.5	417	1,611	367	41	63	1,557	7.9				
1969	3.3	5.97	106.7	2,029	22.4	454	1,606	317	40	48	1,643	8.3				
1970	3.4	5.82	116.1	2,198	22.6	498	1,729	192	43	49	1,610	8.0				
1971	3.4	6.18	119.7	2,256	22.1	500	1,772	219	27	41	1,700	8.4				
1972	3.3	6.46	128.7	2,424	22.2	537	1,909	223	42	42	1,840	9.0	13.5	20.5	34.1	35.8
1973	3.6	9.47	132.2	2,452	38.2	936	1,933	208	54	31	1,775	8.5	25.6	33.1	50.6	64.2
1974	2.9	9.81	131.9	2,437	28.0	683	1,921	281	43	14	1,870	8.9	22.5	30.7	48.8	45.6
1975	3.1	10.81	124.2	2,277	34.8	793	1,803	275	53	19	1,811	8.6	22.1	30.7	49.4	55.1
1976	3.1	11.12	140.0	2,605	31.7	825	2,059	195	71	18	1,961	9.2	22.4	31.4	50.9	51.0
1977	3.0	11.32	136.4	2,562	35.5	910	2,111	168	57	15	2,032	9.4	22.1	31.7	51.7	68.8
1978[1]	3.4	12.53	141.5	2,669	43.6	1,163	2,023	203	56	11	1,991	9.2	22.6	31.6	51.4	56.2
1979[2]	3.7						2,322	175				10.0	25.3	35.8	58.2	67.0
1980[2]								239								

[1] Preliminary. [2] Estimate. *Source: Economic Research Service, U.S.D.A.*

Turkey Per Capita Consumption in the U.S. by Quarters In Pounds

Year	First	Second	Third	Fourth	Total	Year	First	Second	Third	Fourth	Total
1967	.8	1.1	2.2	4.5	8.6	1974	1.2	1.6	2.0	4.1	8.9
1968	.9	1.1	1.9	4.0	7.9	1975	1.1	1.4	2.0	4.1	8.6
1969	1.0	1.2	2.0	4.1	8.3	1976	1.2	1.5	2.1	4.4	9.2
1970	.9	.9	2.1	4.1	8.0	1977	1.3	1.4	2.3	4.2	9.2
1971	1.0	1.2	2.1	4.1	8.4	1978	1.3	1.7	2.3	4.1	9.4
1972	1.1	1.3	2.2	4.4	9.0	1979[1]	1.4	1.9	2.4	4.3	10.0
1973	1.2	1.3	2.1	3.9	8.5	1980					

[1] Preliminary. *Source: Economic Research Service, U.S.D.A.*

tinuing the decline from the November–December 1979 seasonal peak of 75 cents a pound in New York that began in January. If competing meat supplies, consumers' disposable incomes and turkey cold storage stocks turn out as expected, the projected July–December 1980 turkey meat production increase of 6 percent from 1979 levels could result in the price of 8- to 16-pound young hen turkeys averaging 9 to 11 cents a pound less than the 68 cents of that period in 1979.

Production costs for birds marketed during the second half of 1980 were expected to be higher than they were in 1979. While grain and soybean supplies were larger than in 1979, costs of other inputs—especially energy—were expected to continue to rise.

Storage Stocks of Turkeys (Frozen) in the United States In Millions of Pounds

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
1967	267.1	272.1	253.9	206.6	176.1	149.4	159.9	221.3	332.1	441.5	550.8	428.7
1968	366.9	360.6	310.3	267.8	225.1	194.1	185.3	226.0	304.7	385.9	504.4	385.7
1969	317.1	293.6	254.4	201.4	155.0	123.0	119.3	162.7	237.1	329.4	435.6	283.8
1970	191.9	162.1	132.7	101.1	81.5	73.7	94.7	155.5	237.9	343.0	450.5	313.1
1971	218.9	207.1	177.3	146.0	119.4	111.5	140.3	202.8	307.6	389.0	475.2	308.7
1972	223.1	208.0	178.5	144.5	121.3	111.1	143.4	213.2	314.0	408.5	472.9	297.3
1973	208.1	188.4	152.6	115.4	91.3	88.1	137.1	199.4	261.2	350.7	450.5	321.1
1974	281.0	274.0	250.5	235.9	225.0	227.4	265.8	335.8	431.8	528.7	554.6	372.0
1975	275.0	267.1	239.9	207.3	180.2	162.7	193.2	248.6	328.6	409.8	472.4	286.2
1976	195.2	186.8	160.7	140.7	114.5	120.8	177.3	261.8	370.3	459.7	512.3	298.8
1977	203.4	190.3	167.8	142.3	130.3	138.2	201.4	253.6	329.9	409.3	444.5	269.4
1978	167.9	168.2	136.6	113.0	101.1	103.9	152.8	213.6	301.2	373.3	425.4	236.2
1979[1]	175.1	170.7	154.7	135.7	128.0	152.9	200.9	271.3	382.4	431.3	442.3	277.6
1980[1]	240.0	247.5	223.6	208.8	203.3							
1981												

[1] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Wholesale Price of Frozen Eviscerated Tom Turkeys,[1] N.Y.C. In Cents per Pound

													Yearly Avg.		
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.	Hens (12–14 lbs.)	Farm Price[2]
1967	40.3	40.2	38.8	38.3	38.8	38.3	37.8	36.8	35.0	36.2	35.7	36.0	37.7	35.3	20.2
1968	35.1	34.8	34.8	35.0	35.6	37.5	40.0	40.2	40.5	39.3	38.4	36.9	37.3	33.0	20.5
1969	36.7	36.5	36.5	36.5	36.6	38.0	39.2	39.3	39.6	39.9	42.1	43.6	38.7	38.0	21.3
1970	44.8	47.0	49.1	49.9	50.4	50.8	50.6	50.5	49.5	43.1	42.2	43.4	47.6	43.5	23.6
1971	43.5	43.3	41.7	32.7	40.4	40.5	41.4	42.5	42.5	41.2	42.3	43.8	41.4	39.6	21.9
1972	43.8	43.6	34.1	43.4	42.6	42.1	40.3	39.1	38.5	38.9	41.1	42.1	40.8	38.5	22.1
1973	45.1	48.6	56.0	57.7	60.6	67.8	69.4	81.1	86.0	84.2	80.2	71.2	67.3	62.2	34.8
1974	60.7	54.2	51.9	45.3	48.4	52.5	52.6	55.8	55.7	54.4	56.3	58.8	53.9	51.7	28.8
1975	59.0	56.7	55.9	52.0	52.6	56.5	59.5	61.8	64.3	66.8	69.9	70.0	60.3	57.0	33.6
1976	69.0	69.0	69.9	70.0	70.6	71.0	71.0	71.0	71.0	71.0	72.8	73.0	70.8	52.4	31.8
1977	72.5	70.2	68.8	68.8	69.0	70.1	72.1	73.2	73.6	74.6	75.5	78.2	72.2	57.3	34.8
1978	78.5	78.5	78.9	79.0	82.2	86.1	86.8	87.0	87.0	89.1	91.6	90.7	84.6	70.3	42.0
1979	91.0	90.8	90.0	89.5	90.9	91.0	91.0	91.5	91.4	93.1	94.5	92.9	91.5	72.1	42.4
1980															

[1] Heaviest weights quoted. [2] Live turkeys. *Source: Economic Research Service, U.S.D.A.*

Turkeys Certified as Wholesome in Federally Inspected Plants Ready-To-Cook Weight In Millions of Lbs.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1969	42.6	21.3	23.4	21.0	39.0	85.4	145.5	185.3	225.8	266.5	229.7	147.4	1,433
1970	40.5	22.2	22.1	27.6	44.9	109.5	172.1	212.0	244.6	276.9	244.9	149.2	1,567
1971	49.9	31.5	42.7	47.7	63.1	127.7	177.1	221.2	235.8	256.0	242.9	146.1	1,642
1972	57.6	45.2	45.8	44.3	74.6	149.0	186.9	254.6	241.7	282.7	261.3	152.7	1,797
1973	69.7	41.6	45.3	55.8	84.2	142.9	185.0	234.1	212.3	272.6	269.9	174.6	1,788
1974	97.3	59.8	58.9	80.1	113.2	159.7	213.1	237.2	220.2	261.1	215.2	119.9	1,836
1975	64.9	47.1	54.4	68.7	81.9	138.4	193.2	203.3	229.0	257.5	220.2	157.5	1,716
1976	76.3	61.7	68.6	79.9	106.5	182.2	213.9	243.8	252.8	256.6	261.5	146.4	1,950
1977	70.5	58.7	80.3	78.9	110.0	176.5	189.6	244.4	238.2	250.3	246.8	148.2	1,892
1978	81.8	59.7	86.3	80.8	129.3	189.5	199.9	248.8	230.9	271.2	248.9	156.3	1,983
1979	99.3	77.2	95.0	112.3	157.3	195.9	219.2	267.7	233.0	297.5	261.9	165.5	2,182
1980													

Source: Economic Research Service, U.S.D.A.

Turpentine and Rosin

Domestic production of gum turpentine in the 1979/80 crop year, which began April 1, 1979, was estimated by the USDA at 6,740 50-gallon barrels, down 31 percent from 1978/79, and down over 80 percent from 1969–70. Most turpentine production, including steam distilled, sulfate, and gum, is used in the chemical and rubber industries.

Gum rosin production in 1979/80 was estimated at 24,200 drums (517 pounds each), a decline of 30 percent from 1978/79 production of 34,590 drums. Gum rosin's major use is in paper and paper size, followed by chemicals, rubber, ester gums and synthetic resin.

The U.S. is a net importer of both gum turpentine and gum rosin. Gross imports of gum turpentine during the April 1979–March 1980 period totaled 7,780 barrels, a 3 percent increase from the previous season. Gross imports of gum rosin during the April 1979–March 1980 season totaled 48,600 drums, up 19 percent from the 1978/79 season.

Total stocks of turpentine on March 31, 1980, the end of the marketing year, were estimated at 51,000 barrels, of which only 650 barrels were gum turpentine vs. total stocks on March 31, 1979 of 60,510 barrels, including 1,010 barrels of gum turpentine.

Stocks of rosin at the end of the 1979/80 season on March 31, 1980 were estimated at 72,800 drums, which included 2,820 drums of gum rosin vs. March 31, 1979 stocks of 134,280 drums, including 3,070 drums of gum rosin.

Gum rosin and gum turpentine are the processed derivatives of crude pine gum. The price of crude pine gum is supported through loans on crude pine gum and gum rosin. Although there is no loan rate on turpentine, the prospective market price of turpentine is taken into consideration in setting the rosin loan rate. In 1979, the loan rate on crude pine gum was $70 per barrel (517 pounds) and the loan rate per 100 lbs. of WG base grade rosin was $23.75. The 1980 loan rates had not been established by presstime for the 1980 Commodity Year Book.

U.S. Production of Gum Turpentine and Miscellaneous Naval Stores In Barrels of 50 Gallons

Crop Year—April 1 to March 31	Exports of Pine Oil	Gum Turpentine				Miscellaneous Naval Stores			
		Florida	Georgia	Other States	Total	Stocks of Pine Oil (Mar. 31)	Pine Oil (All Sources[3])	Other Steam Distilled Terepenes	Stocks of Other Steam Distil. Terp. (Mar. 31)
1967–8	73,910	[2]	58,230	9,510	67,740	N.A.	285,120	99,990	N.A.
1968–9	77,540	[2]	43,750	8,570	50,410	N.A.	289,190	101,000	N.A.
1969–0	73,800	[2]	30,790	4,200	34,990	N.A.	277,740	98,880	N.A.
1970–1	80,440	[2]	22,350	3,480	25,830	16,280	276,940	79,470	N.A.
1971–2	74,510	[2]	24,850	3,510	28,360	42,990	290,410	82,850	20,560
1972–3	76,100	[2]	23,040	3,510	26,550	40,070	260,260	77,500	60,170
1973–4	90,590	[2]	18,610	2,800	21,410	22,150	249,450	77,610	92,170
1974–5	94,370	[2]	13,210	2,400	15,610	22,510	213,260	80,880	102,720
1975–6	72,070	[2]	18,300	2,390	20,690	25,370	171,220	40,660	30,200
1976–7[1]	69,310				17,420	32,830	190,060	45,220	21,860
1977–8[1]	71,250				14,530	26,730	189,780	46,430	19,580
1978–9[1]	103,370				9,740	11,840	192,680	52,880	7,500
1979–0[4]	180,000				6,740	15,000	192,940	53,000	11,000
1980–1									

[1] Preliminary. [2] Included in other states. [3] Includes production from imported pine wood extract. [4] Forecast.
Source: Crop Reporting Board, U.S.D.A.

Supply and Distribution of Turpentine in the United States In Thousands of Barrels (50 Gallon Barrels)

Crop Year Beginning April 1	April 1 Carryover			Production			Imports For Consumption	Available Supply			Exports	App. Consumption		
	Gum	Wood	Total	Gum	Wood	Total		Gum	Wood	Total		Gum	Wood	Total
1967–8	21.6	118.7	140.3	67.7	560.2	627.9	20.8	110.1	678.9	789.0	32.8	75.9	574.9	650.8
1968–9	16.3	89.1	105.4	50.4	601.8	652.2	22.7	89.4	690.9	780.3	40.8	71.0	581.8	652.8
1969–0	11.0	75.7	86.8	35.0	582.4	617.4	23.1	69.1	658.1	727.2	35.0	50.2	560.2	610.4
1970–1	13.4	68.5	81.8	25.8	550.0	575.8	24.1	63.3	618.4	681.8	39.7	44.3	495.8	540.1
1971–2	12.9	89.1	102.1	28.4	540.3	568.7	22.7	64.0	629.4	693.4	41.6	48.9	501.0	549.9
1972–3	11.5	90.4	101.9	26.6	539.5	566.1	42.3	80.4	629.9	710.2	89.2	65.3	446.6	511.9
1973–4	14.2	94.9	109.1	21.4	509.2	530.6	33.6	69.3	604.1	673.3	37.3	55.1	480.3	535.3
1974–5	11.0	89.8	100.8	15.6	471.4	487.0	29.7	56.3	561.2	617.5	16.3	48.9	481.6	530.5
1975–6	5.4	65.4	70.7	20.7	426.9	447.6	58.6	84.7	429.3	577.0	4.2	73.7	385.5	459.2
1976–7	9.6	104.0	113.6	17.4	464.8	482.2	16.3	42.7	569.4	612.1	20.3	33.3	430.8	464.1
1977–8	7.4	120.4	127.8	14.5	462.6	477.1	7.9	29.4	583.5	612.9	19.4	23.7	478.8	502.6
1978–9[1]	4.8	86.1	90.9	9.7	498.0	507.7	7.1	21.0	584.7	605.7	15.3	17.2	498.6	515.8
1979–0[2]	3.3	71.3	74.6	6.7	519.4	526.1								
1980–1														

[1] Preliminary. [2] Estimate. *Source: Crop Reporting Board, U.S.D.A.*

TURPENTINE AND ROSIN

United States Industrial Consumption of Rosin and Turpentine, by Industries

Beginning April 1	Rosin[1] (Drums of 520 Lbs. Net[2])						Turpentine (Barrels of 50 Gallons)			
	Chemicals & Rubber	Ester Gum & Synthetic Resins	Paint, Varnish & Lacquer	Paper & Paper Size	Other Industries	Total	Chemicals & Rubber	Paint, Varnish & Lacquer	Other Industries	Total
1967–8	650,200	236,000	41,450	515,530	50,280	1,493,460	563,550	4,320	3,480	571,350
1968–9	720,720	243,710	56,920	518,230	61,950	1,601,530	595,380	2,720	3,400	601,500
1969–0	701,760	230,940	54,680	499,790	53,520	1,540,690	593,470	1,900	3,220	598,590
1970–1	623,610	218,290	57,480	519,320	43,120	1,461,820	529,350	1,620	5,260	536,230
1971–2	575,960	216,360	71,430	514,700	50,650	1,429,100	540,980	2,160	1,400	544,540
1972–3	565,000	244,790	52,360	470,000	49,380	1,381,530	461,940	1,390	4,170	467,500
1973–4	558,690	264,890	50,320	346,470	51,100	1,271,470	437,510	940	4,920	443,370
1974–5	482,050	207,180	28,140	306,840	79,140	1,103,350	431,670	990	7,070	439,730
1975–6	384,270	222,340	16,480	371,650	58,810	1,045,550	419,490	870	3,110	423,470
1976–7	445,870	283,060	22,260	370,370	81,220	1,202,780	476,160	740	3,690	480,590
1977–8	376,040	241,940	22,260	357,560	75,750	1,073,550	464,150	1,020	8,110	473,280
1978–9[3]	362,100	233,130	19,440	463,610	89,540	1,167,820	496,840	650	7,780	505,270
1979–0										

[1] Includes B-wood resin. [2] Gum rosin in drums of 517 lbs. [3] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Supply and Distribution of Rosin in the United States In Thousands of Drums (520-lb. Net Weight Drums)

Crop Year Beginning April 1	April 1 Carryover			Production			Imports For Consumption	Available Supply			Exports	Apparent Consumption		
	Gum	Wood	Total	Gum	Wood	Total		Gum	Wood	Total		Gum	Wood	Total
1967–8	835.0	308.5	1,143	223.4	1,645	1,868	.7	1,059	1,954	3,013	705.5	169.7	1,178	1,348
1968–9	693.8	266.2	960	171.0	1,675	1,845	1	865	1,941	2,806	644	178	1,254	1,431
1969–0	495	236	731	119	1,623	1,741	1	614	1,859	2,473	645	172	1,204	1,377
1970–1	327	124	451	88	1,568	1,656	—	415	1,692	2,107	569	145	1,132	1,277
1971–2	147	114	261	92	1,539	1,631	6	245	1,653	1,898	456	129	1,131	1,258
1972–3	51	133	184	89	1,540	1,629	24	164	1,673	1,837	466	78	1,165	1,244
1973–4	15	112	127	74	1,509	1,584	106	195	1,622	1,817	418	136	1,156	1,291
1974–5	33	75	108	54	1,252	1,306	162	250	1,327	1,576	268	135	890	1,026
1975–6	97	186	283	72	1,016	1,088	21	190	1,202	1,392	174	117	868	985
1976–7	60	173	232	61	1,296	1,357	25	135	1,480	1,615	280	85	1,069	1,154
1977–8	36	145	181	51	1,250	1,301	31	114	1,399	1,513	215	79	987	1,066
1978–9[1]	21	211	232	35	1,304	1,339	55	97	1,528	1,626	328	59	1,023	1,082
1979–0[2]	20	195	215	24	1,441	1,465								
1980–1														

[1] Preliminary. [2] Estimate. *Source: Crop Reporting Board, U.S.D.A.*

U.S. Market Prices & Value of Gum Naval Stores In Dollars

Crop Yr. Beg. April	Avg. Price Received By Producers[1]	Market Price		Market Value of Production		Crop Yr. Beg. April	Avg. Price Received by Producers[1]	Market Price		Market Value of Production	
		Turpentine, Per Gallon	Rosin, Per 100 Lbs.	Turpentine	Rosin			Turpentine, Per Gallon	Rosin, Per 100 Lbs.	Turpentine	Rosin
				Thousand Dollars						Thousand Dollars	
1967–8	31.00	.574	10.36	1,944	11,966	1974–5	84.36	1.389	35.92	1,084	10,106
1968–9	31.24	.770	10.45	1,941	9,241	1975–6	59.59	1.585	25.15	1,640	9,338
1969–0	36.57	1.138	11.80	1,991	7,244	1976–7	59.46	1.427	24.46	1,278	7,971
1970–1	47.37	1.200	15.03	1,550	6,818	1977–8	65.46	1.425	25.35	1,035	6,702
1971–2	51.14	1.200	16.93	1,702	6,210	1978–9	67.82	1.610	27.54	784	4,925
1972–3	55.17	1.046	18.89	1,389	8,694	1979–0					
1973–4	60.97	.806	22.72	863	8,737	1980–1					

[1] Per standard barrel for commercial crude gum delivered at central stills. *Source: Economic Research Service, U.S.D.A.*

Uranium

The U.S., which is the world's largest producer, produced 18.7 thousand tons of uranium (U_3O_8) in 1979, according to preliminary estimates of the U.S. Department of Energy (DOE). Production in 1979 was up slightly from DOE's 1978 estimate of 18.5 thousand tons.

In 1979, the DOE estimated that U.S. uranium reserves, at a forward cost basis of $30 per pound or less, totaled 545 thousand tons. At a forward cost basis of $50 per pound or less, reserves were estimated at 936 thousand tons.

Forward costs are those costs yet to be expended in mining of uranium ore and its processing. Since they do not include fixed costs, taxes, profit, or amortization of existing capital equipment, they are not representative of the incentive necessary to bring these reserves to market.

An additional 100 thousand tons of uranium was estimated to be available as a by-product of phosphate and copper production between 1979 and 2000.

The DOE is the sole domestic processor of uranium to produce a uranium product that is enriched in the isotope Uranium 235 for nuclear applications.

Three Mile Island

1979 was a critical year for the U.S. nuclear power industry, with the accident which shut down the Three Mile Island (TMI) 2 reactor occupying the headlines of the world for months. The entire question of nuclear power, its safety and regulation, has become a topic of national debate. TMI effects may be seen in the fact that no reactors were ordered in all of 1979 or in 1980 as of mid-May while 2 reactors were ordered in 1978 and 4 in 1977. Of the four orders in 1977, 2 were canceled in 1979. Altogether, 6 orders for reactors were canceled in 1979 and another 8 reactor units were canceled in 1980 as of mid-May. The total number of reactors on order has declined from 50 units in 1977 to 29 in 1978, and to 24 in 1979. As of mid-May 1980 only 19 reactors were on order.

Prices

While most uranium is purchased by utilities under long-term contracts from producers, a distinct softening of the price of uranium has occurred in the spot market. Press reports in early 1980 indicated that prices were in the $43-$45 per pound range in mid-1979 and had declined to $41 per pound by late 1979. Recent reports indicated that prices broke the important $40 per pound level and plunged to about $32 per pound in the spring of 1980.

After the Westinghouse Electric Corp. abrogated contracts to deliver uranium in September 1975, utilities were bent on acquiring assured supplies and had relatively little concern about price because of their ability as regulated natural monopolies to add their costs into their rate base. Prices of uranium jumped accordingly. However, in 1977 the charge that uranium producers were participating in an illegal cartel which was artificially fixing prices was made by the utilities and lawsuits were filed.

In 1979, the Tennessee Valley Authority (TVA), one of the country's two largest consumers of uranium, voided a long-term contract with a large Canadian producer which called for the delivery of uranium at higher-than-spot-market prices. The TVA charged that the contract price was the result of the producer's participation in the alleged cartel.

Post TMI, as reactor orders were canceled, and time-consuming regulations increased, prospects are for a much slower pace of nuclear power growth in the U.S. and for a decline in demand for uranium over the near term, compared with pre-TMI expectations.

In early 1980, press reports indicated that uranium that had been in utility inventories had appeared on the spot market as future cost expectations were lowered and high interest rates made carrying excessive inventories burdensome. Utilities were reported to have record high inventories.

Meanwhile, producers of uranium, who were earlier spurred by an increase of prices of more than 700 percent since 1972, were in the midst of expansion of mining facilities. Yet to be faced is the impact of the first of two huge Australian uranium projects which is expected to begin production within two years. Undoubtedly, some reduction of mining expansion has occurred. However, the outlook for uranium prices, at least until the U.S. nuclear power program regains momentum, appears to favor relatively low prices.

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URANIUM

Free-World Production of Uranium Oxide (U_3O_8) Concentrate In Thousands of Short Tons

Year	Argentina	Australia	Canada	Spain	Namibia	Gabon	France	Portugal	Niger	Malagasy Rep.	Sweden	South Africa	United States	World Total
1966	.1	.3	3.9	.1	—	.6	1.5	.1	—	.1	.1	3.3	9.6	19.5
1967	[1]	.3	3.7	.1	—	.6	1.6	.1	—	.1	.1	3.4	9.1	19.1
1968	[1]	.3	3.7	.1	—	.6	1.6	.1	—	[1]	.1	3.9	12.6	23.0
1969	.1	.3	3.9	.1		.5	1.8	.1	—	—	.1	4.0	12.3	23.1
1970	.1	.3	4.1	.1		.4	1.9	.1	.1	—	.1	4.1	12.9	24.2
1971	.1	—	4.1	.1		.6	1.9	.1	.5	—	.1	4.2	12.3	23.9
1972	.1	—	4.9	.2		.6	1.9	1	1.0	—	.1	4.0	12.9	25.6
1973	.1	—	4.8	.1		.8	2.0	.1	1.2	—	.1	3.4	13.2	25.5
1974	[1]	—	4.8	.1		1.0	2.1	.1	1.5		.1	3.5	11.5	24.6
1975	[1]	—	6.1	.1		1.2	2.2	.1	1.8		.1	3.2	11.6	26.7
1976[2]	[1]	.5	6.7	.2	.8	1.2	2.3	.1	1.9		.1	3.6	12.7	30.1
1977[3]		1.0	7.0	.2	1.5	1.2	2.4		2.1			4.0	14.0	33.8
1978[3]													15.0	
1979														

[1] Less than 50 tons. [2] Preliminary. [3] Estimate. *Source: Bureau of Mines*

U.S. Uranium Ore and Concentrate Data

Fiscal Year	Gross Wt. Exports (Ores, Concentr., Compounds & Metal) Sht. Tons	Stocks[3] Dec. 31	Production		Consumption (for Enrichment)	Recoverable Ths. Sh Tons	Value Mil. $	Price $ Avg per lb U_3O_8	Deliveries of Concentrate Short Tons		Imports Ore & Concentrate (U_3O_8) Short Tons
		Thous. Short Tons	Mine (Ore Ship.)	Mill (U_3O_8)					AEC	Private Industry	
1966	153.5		4,329	9.9					9,488	100	2,123
1967	50.4		5,272	10.7				8.00	8,425	700	1,309
1968	120.5		6,448	12.6				8.00	7,337	5,000	470
1969	106.5	10.0	5,904	12.3	6.2			5.85	6,184	6,200	1,504
1970	4,091.9	11.4	6,324	12.8	9.4			6.30	2,520	9,300	665
1971	6,176.0	11.4	6,279	12.9	5.8	12,260	152.0	6.20	—	12,800	942
1972		18.8	6,418	13.2	6.4	12,880	162.3	6.30	—	11,600	2,329
1973	2,076	25.6	6,537	11.5	6.9	12,901	167.7	6.50	—	12,100	5,605
1974	2,352	25.2	7,116	11.6	8.0	11,614	192.6	8.30		11,900	1,835
1975	2,073	27.9	7,365	12.7	8.1	11,439	281.4	10.50		12,500	1,226
1976[1]	934	31.9	9,198	14.0	10.7	12,573	404.8	16.10		12,900	5,537
1977[2]	2,000	35.0		15.0	12.9	14,000		20.00			4,000
1978											
1979											

[1] Preliminary. [2] Estimate. [3] Producers & consumers. *Sources: Atomic Energy Commission; Bureau of Mines*

Estimates of Nuclear Power Growth in Europe In Thousands of Megawatts Installed

Year	France	West Germany	Italy	Spain	Sweden	Switzerland	United Kingdom	Other	Total Europe
1976	5.0	7.0	1.4	1.1	3.2	1.0	7.2	2.2	28.1
1980	20.4	19.1	1.4	8.7	7.4	3.8	11.1	6.2	78.1
1985	56.0	44.6	26.4	23.7	11.3	8.0	15.4	26.2	211.6
1990	90.0	77.0	62.0	42.0	16.3	8.0	31.0	51.5	377.8
2000	170	134	140	80	24	12	115	123	798

Source: Organization for Economic Co-operation & Development (OECD) Nuclear Energy Agency; also U.S. Bureau of Mines

Vanadium

Both production of vanadium from domestic ores and concentrates and reported consumption of vanadium increased in 1979. Prices also showed general improvement as compared with 1978.

Reported domestic consumption increased over the previous year, and approached the record high of 7,200 short tons established in 1974. Use of vanadium in the steel industry increased with the growing use of high-strength low-alloy steels. Over 90% of vanadium consumed in the year was in the form of ferrovanadium and associated proprietary vanadium-carbon-iron materials.

Vanadium oxide from domestic sources was produced by three firms at four plants in 1979. Gulf Chemical and Metallurgical Co. recovered vanadium oxide at its Texas City, Tex., plant solely from foreign materials. Colorado Plateau uranium-vanadium ores and tailings, Arkansas vanadium ore, and Idaho ferrophosphorous were the domestic materials processed for recovery of vanadium pentoxide. Recovery of coproduct vanadium from uranium-vanadium ores also increased in 1979.

Byproduct vanadium continued to be recovered from processing ash obtained from burning Venezuelan oil in power-generating facilities.

Exports of ferrovanadium increased slightly over the 1978 level, while exports of ore and pentoxide declined substantially. Imports of ferrovanadium increased, as did imports of vanadium-bearing materials. Imports of vanadium pentoxide declined sharply from the previous year's level.

Price changes for vanadium materials all became effective April 1, 1979. Price quotations for both Carvan and Ferovan increased from $6.05 to $6.52 per pound contained vanadium. The quotation for 80% vanadium grade ferrovanadium increased from $6.32–$6.58 to $6.80–$7.09 per pound contained vanadium. The lower quotation for metallurgical grade vanadium pentoxide declined to $2.75 from $3.05 per pound V_2O_5, while the higher quote remained at $4.04 per pound throughout the year. Chemical grade vanadium pentoxide changed from $3.05–$3.52 to $3.05–$3.80 per pound V_2O_5.

The available world supply of vanadium increased with the startup of a vanadium recovery plant for processing mixed slags in the People's Republic of China, and a spent catalyst recovery plant in Japan. Work on production facilities for vanadium is underway in Australia, while a mineralized zone reportedly containing 100 million tons of material grading 0.7% V_2O_5 was discovered in the Campo Alegro de Lourdes area of Brazil.

World Production of Vanadium in Ores and Concentrates In Short Tons (of Contained Vanadium)

Year	U.S.S.R.	Chile	Finland	France	Norway	South West Africa[1]	South Africa	United States[1]	World Total[4]
1969	3,433	600	1,484	106	1,110	552	6,158	5,577	19,020
1970	3,800	610	1,450	—	1,190	443	7,127	5,319	19,939
1971	2,917	660	1,222	—	1,110	730	6,530	5,252	20,502
1972	3,720	720	1,312	—	1,060	650	8,230	4,887	20,239
1973	4,246	1,060	1,388	—	820	715	9,047	4,377	21,653
1974	3,230	640	1,635	—	500	903	8,984	4,870	20,762
1975	8,800	660	1,405	—	510	619	11,734	4,743	28,471
1976	8,800	1,199	1,649	—	580	782	10,885	7,376	32,471
1977[2]	10,000	950	2,055		600	820	12,388	6,504	33,209
1978[3]	10,000	760					12,400	5,205	32,407
1979[3]	10,000	750					15,150	6,300	36,850

[1] Recoverable vanadium. [2] Preliminary. [3] Estimate. [4] Total only for countries shown. *Source: Bureau of Mines*

Salient Statistics of Vanadium in the United States In Short Tons of Contained Vanadium

Year	Vanadium in Ores & Concentrates		Prod. of Vanad.		Vanadium Consumed by Uses[2]								$ Per		Exports	
	Mine Production	Recoverable Vanadium	Pentoxide (V_2O_5)	Consumer Stocks Dec. 31	Tool Steel	Cast Irons	Hi-Strength Low-Alloy	Nonferrous Alloys	Chemicals	Carbon	Full Alloy	Total	Lb. Van Pent. oxide[3]	General Imports[5]	Ore & Concentrates[4]	Ferro-Vanadium (Gross Weight)
1968	7,105	6,483	10,976	977	610	57	2,591	459	168	1,092	N.A.	5,495	.95–1.15	N.A.	463	278
1969	5,737	5,577	10,542	1,057	648	55	2,739	618	196	1,296	N.A.	6,154	.95–1.80	2,250	258	644
1970	5,793	5,319	9,986	1,024	473	51	2,420	485	136	1,050	N.A.	5,134	1.75–2.60	2,000	973	2,155
1971	5,547	5,252	9,448	645	441	56	2,530	363	114	830	N.A.	4,802	1.68	2,350	260	676
1972	4,699	4,887	9,367	788	620	60	2,062	353	147	630	1,088	5,227	1.50	1,400	176	269
1973	4,117	4,377	8,683	1,291	997	56	2,252	527	163	687	1,544	6,393	1.50	2,600	232	1,416
1974	5,240	4,870	9,583	1,984	936	52	2,398	722	255	900	1,744	7,200	2.12	2,485	203	1,335
1975	5,213	4,743	8,674	1,141	413	59	2,004	425	239	931	1,307	5,501	2.76	2,895	215	1,018
1976	8,076	7,376	11,063	1,080	565	61	1,636	313	212	516	1,311	4,720	2.90	2,998	99	1,210
1977	7,565	6,504	9,297	845	549	35	1,800	323	110	688	1,419	5,261	2.90	2,812	192	658
1978[1]	4,446	4,272	9,290	974	858	59	2,440	467	123	1,051	1,506	6,630	3.17	2,245	1,239	1,309
1979[1]		6,300		951	760	45	1,413	560	76	1,070	1,480	6,524	3.39	1,600	101	880
1980																

[1] Preliminary. [2] Represent about 90% of the total consumption. [3] Dealer export. [4] Also includes fused vanadium oxide. [5] Ores, slags, residues, & pentoxides. *Source: Bureau of Mines*

Wheat and Flour

U.S. wheat supplies for the 1979/80 marketing year which ended May 31, 1980 were about 3 percent larger than in 1978/79 as increased production more than offset a reduction in beginning stocks.

The 1979 U.S. Hard Red Winter (HRW) crop was a record large 1,105 million bushels, following 1978's production of only 836 million bushels—the smallest since 1972. The 1979 Hard Red Spring (HRS) harvest of 365 million bushels represented the third successive cutback in production since the record 411 million bushel crop in 1976. The 1979 Soft Red Winter (SRW) crop of 321 million bushels helped alleviate a tight supply situation resulting from the previous year's short crop of 202 million bushels. The White wheat crop (Western, Eastern, and Spring) of 256 million bushels, including a record-large 60 million bushel spring-seeded White wheat crop, was slightly above 1978 output. The 1979 Durum crop of 107 million bushels was about 20% below 1978's near record outturn.

U.S. wheat disappearance of 1,355 million bushels in the June–December 1979 period was slightly above the 1,343 million bushel disappearance during the same period in 1978. Exports during this period of 899 million bushels were record-large but estimated feed use of wheat dropped to only 31 million bushels from 134 million in the previous year. HRW exports were up 26 percent from a year earlier with USSR shipments of 140 million bushels accounting for most of the increase. SRW exports were up sharply, helped by sales to China. Exports of White wheat in June–December 1979 dropped following the cessation of sales to Iran—the major market for White wheat. June–December Durum exports of 55 million bushels were about 5 million smaller than during the same period a year earlier.

January 1, 1980, U.S. wheat stocks totaled 1.7 billion bushels, 5 percent above stocks a year earlier. About one-fifth of the January 1, 1980, stocks were under government support programs.

Wheat disappearance for the full 1979/80 season was expected by the USDA to be a record 2.15 billion bushels. Wheat export inspections for the season through May 15 were about 16 percent larger than during the same period of the previous season, but that total was helped by heavy shipments to the USSR early in the season. An accelerated output of wheat milled to flour during the June 1979–March 1980 period pointed to a record year for wheat product consumption. Also, 1979's per capita flour consumption at 120 pounds, was 3 percent above 1978.

Soviet Sales Suspension

A sharp drop in the USSR 1979 winter wheat crop (because of drought and hot, dry winds) to 38 million tonnes—the lowest since 1975—resulted in prospective sales of U.S. wheat to the USSR of more than 250 million bushels (approx. 6.8 million tonnes), compared with 96 million bushels in 1978/79.

However, on January 4, 1980, President Carter, in response to the Soviet Union's intrusion in Afghanistan, announced a number of foreign policy actions, one of which was to suspend shipments of agricultural commodities to the USSR. This action involved an estimated 17 million tonnes of grain, including about 4 million tonnes (147 million bushels) of wheat and 13 million tonnes (512 million bushels) of corn. The United States remained willing to ship that portion of wheat needed to fulfill its obligations under the fourth year of the US/USSR Grain Agreement. This pact provides for a minimum Soviet purchase of 6 million tonnes of U.S. grains, approximately evenly divided between wheat and corn, during each year (October–September) of the agreement. This agreement is scheduled to expire in September 1981, and in late May 1980 the USSR was authorized to make purchases during the final year of the agreement. All USSR purchases of U.S. wheat in the 1979/80 season were of the Hard Red Winter class.

A number of U.S. Government program changes were initiated after the suspension of grain shipments to the USSR, effective January 8, 1980, in order to help soften the adverse impact of that action on prices. The USDA announced that it would purchase 4 million tonnes of wheat already sold to the USSR by exporters but not shipped. By mid-April 1980, the Commodity Credit Corp. (CCC) had completed the purchase of 4.2 million tonnes of wheat. As of mid-May 1980, the CCC had sold contract rights on 36 million bushels of 156 million bushels acquired from exporters.

Other program changes included the following: (1) an increase in the 1979 loan rate from $2.35 to $2.50 per bushel; (2) increases in the release and call levels for wheat in the farmer-owned reserve. The new levels were $3.50 per bushel release level (140 percent of loan) and $4.38 call price (175 percent of loan) for wheat already in the reserve, and a $3.75 release (150 percent of loan) and $4.63 call (185 percent of loan) for wheat placed in the reserve after January 7, 1980. Producers with wheat in the reserve before January 7 had the option of signing a new reserve contract with the higher release and call levels; (3) yearly storage payments on reserve stocks were raised to 26.5 cents per bushel, up from 25 cents.

1980 Government Programs

No planting restrictions were announced for the 1980 U.S. wheat crop. All wheat producers are eligible for loans, the farmer-owned reserve, and target price protection.

The Agricultural Adjustment Act of 1980 (signed March 18, 1980) raised the 1980 wheat target price for producers who stay within their normal crop acreage (NCA) to $3.63 per bushel. Those producers who exceed their NCA will receive benefits based on the formula target in the Food & Agriculture Act of 1977, which established the 1980 wheat target price at $3.08 per bushel. The loan rate for 1980 crop wheat is $2.50 per bushel.

Futures Markets

Wheat futures are traded on the Chicago Board of Trade, the Kansas City Board of Trade, the Minneapolis Grain Exchange, and the MidAmerica Commodity Exchange in Chicago.

World Production of Wheat In Thousands of Metric Tons

Crop Year	Argentina	Australia	Canada	China	France	W. Germany	India	Italy	Pakistan	Spain	Turkey	Un. Kingdom	U.S.S.R.	United States	World Total[1]
1968–9	5,740	14,804	17,685	22,000	14,985	6,012	16,540	9,655	6,477	5,477	8,400	3,469	76,500	42,365	307,185
1969–0	7,020	10,546	18,623	23,000	14,459	5,820	18,652	9,585	6,711	4,624	8,300	3,364	62,300	39,263	287,739
1970–1	4,250	7,890	9,023	24,500	12,922	5,492	20,093	9,689	7,399	4,060	8,000	4,236	82,700	36,783	291,108
1971–2	5,680	8,651	14,412	24,000	15,360	7,142	23,832	10,070	6,476	5,457	10,700	4,815	98,760	44,029	322,562
1972–3	6,800	6,510	14,514	26,000	18,123	6,410	26,410	9,423	6,889	4,562	9,500	4,761	85,993	42,046	331,056
1973–4	6,560	12,094	16,459	28,000	17,792	7,134	24,735	8,900	7,800	3,915	8,000	5,003	109,784	46,407	371,600
1974–5	5,970	11,357	13,295	37,000	19,142	7,761	22,072	9,697	7,800	4,534	8,300	6,130	83,849	48,797	356,410
1975–6	8,570	12,024	17,078	40,000	15,013	7,014	24,104	9,610	7,673	4,302	11,500	4,488	66,224	58,078	350,057
1976–7	11,000	11,825	23,587	43,000	16,150	6,702	28,846	9,528	8,691	4,436	13,000	4,740	96,882	58,306	415,100
1977–8	5,700	9,400	19,900	41,000	17,046	7,126	29,082	6,650	9,100	3,988	13,500	5,267	92,200	55,400	382,600
1978–9[2]	8,100	18,100	21,200	45,000	21,056	8,118	31,700	9,191	8,300	4,795	13,300	6,615	120,800	48,900	438,600
1979–0[1]	7,800	16,300	17,700	49,500	18,695	7,970	35,000	8,800	9,900	4,191	12,700	6,800	86,000	58,300	405,000
1980–1															

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[1] Estimated. [2] Preliminary. *Source: Foreign Agricultural Service, U.S.D.A.*

Wheat Supply and Distribution in Canada, Australia and Argentina In Millions of Metric Tons[1]

Crop Year	Canada (Yr. Beg. Aug. 1)					Australia (Yr. Beg. Dec. 1)					Argentina (Yr. Beg. Dec. 1)				
	Supply			Disappearance		Supply			Disappearance		Supply			Disappearance	
	Stocks Aug. 1	New Crop	Total Supply	Domestic	Exports[1]	Stocks Dec. 1	New Crop	Total Supply	Domestic	Exports[1]	Stocks Dec 1	New Crop	Total Supply	Domestic	Exports[1]
1968–9	666	650	1,316	158	306	52	544	596	92	237	46	211	271	153	90
1969–0	852	684	1,536	180	347	267	388	655	88	297	28	258	286	147	84
1970–1	1,008	332	1,340	171	435	277	290	567	96	336	29	181	210	149	36
1971–2	734	530	1,264	176	504	135	316	451	107	286	25	209	234	160	60
1972–3	584	533	1,117	175	577	58	242	300	121	158	14	254	284	157	117
1973–4[4]	9.9	16.2	26.1		11.5	.6	12.0	12.6		5.4	.3	6.6	6.9		1.1
1974–5	10.1	13.3	23.4		11.2	2.0	11.4	13.4		8.2	1.0	6.0	7.0		2.2
1975–6	8.0	17.1	25.1		12.1	1.8	12.0	13.8		7.9	.7	8.6	9.3		3.2
1976–7	8.2	23.6	31.8		12.9	2.8	11.7	14.5		8.5	.7	11.0	11.7		5.6
1977–8[2]	13.3	19.9	33.2		15.9	2.0	9.4	11.4		11.1	1.4	5.7	7.1		2.6
1978–9[3]	12.1	21.2	33.3		13.5	.5	18.1	18.6		6.7	.6	8.1	8.7		3.3
1979–0[3]	12.8	17.7	30.5		13.8	1.0	16.3	17.3		13.0	.6	7.8	8.4		3.9
1980–1															

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[1] Including flour. [2] Preliminary. [3] Forecast. [4] Data prior to 1973–74 are in MILLIONS OF BUSHELS.
Source: Foreign Agricultural Service, U.S.D.A.

Seeded Acreage, Yield and Production of All Wheat in the United States

Year	Seeded Acreage—1,000,000 Acres					Yield Per Harvested Acre—In Bushels					Production—1,000,000 Bushels				
	Winter	Spring	Not Durum	Durum	All	Winter	Spring	Not Durum	Durum	All	Winter	Spring	Not Durum	Durum	All
1967	53.6	13.6	10.8	2.8	67.3	26.5	23.5	23.4	24.1	25.8	1,194.1	313.5	247.0	66.4	1,507.6
1968	48.7	13.2	9.5	3.7	61.9	29.0	26.4	26.0	27.5	28.4	1,217.6	339.1	239.4	99.6	1,556.6
1969	42.3	11.1	7.6	3.5	53.5	31.2	28.7	27.3	31.7	30.6	1,131.4	311.2	202.8	108.4	1,442.7
1970	37.6	11.1	8.9	2.2	48.7	33.4	23.9	23.6	25.1	31.0	1,091.7	259.8	207.0	52.8	1,351.6
1971	38.1	15.8	12.8	2.9	53.8	35.4	30.9	30.7	32.1	33.9	1,145.0	473.6	381.8	91.8	1,618.6
1972	42.2	12.7	10.1	2.6	54.9	34.0	28.9	29.0	28.6	32.7	1,186.5	359.7	286.8	72.9	1,546.9
1973	43.5	15.8	12.8	3.0	59.3	33.0	28.1	28.3	27.2	31.7	1,278.2	432.6	354.1	78.5	1,710.8
1974	52.0	19.0	14.8	4.2	71.0	29.4	21.9	22.4	19.8	27.3	1,375.5	406.4	325.1	81.2	1,781.9
1975	55.9	18.9	14.1	4.8	74.8	32.0	26.7	26.8	26.4	30.6	1,640.4	482.1	358.7	123.4	2,122.5
1976	57.7	22.5	17.8	4.7	80.2	31.5	27.3	26.8	29.4	30.3	1,559.9	582.4	447.5	134.9	2,142.4
1977	56.3	18.8	15.6	3.2	75.1	31.6	28.0	28.4	26.4	30.6	1,537.1	499.2	419.2	80.0	2,036.3
1978[1]	47.9	17.8	14.3	4.1	66.3	32.0	29.7	30.0	33.1	31.6	1,247.7	549.8	416.5	133.3	1,797.5
1979[2]	51.9		15.6	4.0	71.6	36.9		28.2	27.1	34.2	1,608.9	532.8	426.2	106.7	2,141.7
1980															

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[1] Preliminary. [2] Estimate. *Source: Crop Reporting Board, U.S.D.A.*

WHEAT AND FLOUR

Stocks, Production, and Exports of Wheat, by Classes In Millions of Bushels

Year Beginning June[5]	Hard Spring			Durum[3]			Hard Winter			Red Winter			White		
	June 1[6] Stocks	Production	Exports[2]	June 1[6] Stocks	Production	Exports[2]	June 1[6] Stocks	Production	Exports[2]	June 1[6] Stocks	Production	Exports[2]	June 1[6] Stocks	Production	Exports[2]
1967–8	132	230	71	29	66	31	234	706	375	15	274	121	15	246	163
1968–9	178	228	77	24	100	46	279	811	271	30	224	50	28	214	100
1969–0	210	190	89	41	108	34	475	785	336	33	186	28	58	174	119
1970–1	178	198	113	80	53	39	574	755	450	23	174	26	30	171	110
1971–2	146	366	104	58	92	44	492	747	337	15	212	43	20	201	104
1972–3	275	276	198	69	73	65	471	761	704	18	226	68	30	209	151
1973–4	212	328	245	45	79	45	287	957	775	25	159	27	30	182	125
1974–5	87	293	130	33	81	47	170	883	510	23	273	136	27	252	195
1975–6	104	327	160	26	123	52	225	1,058	581	37	326	165	43	288	215
1976–7	116	411	124	53	135	41	379	976	418	57	336	181	60	284	186
1977–8	250	398	156	92	80	62	605	992	535	72	350	197	93	216	174
1978–9[1]	335	379	232	67	134	72	631	836	610	71	202	95	73	247	185
1979–0[4]	324	365	210	87	107	70	420	1,093	715	27	321	160	68	256	170
1980–1[4]	317			78			451			39			89		

[1] Preliminary. [2] Includes flour made from U.S. wheat & shipments to territories. [3] Includes "Red Durum." [4] Estimate. [5] Data prior to 1973–4 are for YEAR BEGINNING JULY. [6] Data prior to 1973–4 are as of JULY 1.
Source: Economic Research Service, U.S.D.A.

Salient Statistics of Wheat in the United States

Crop Year	Acreage Harvested			Avg.—All Yield Per Acre In Bushels	Farm Disposition			Value of Production Ths. $	Foreign Trade		Export Value of U.S. Wheat & Pdt's. Mil. $	Per Capita[1] Consumption	
	Winter	Spring	All		Used for Seed	Fed to Livestock	Sold		Domestic Exports[2]	Imports[3]		Flour	Cereal
	1,000 Acres				(Million Bushels)				Million Bushels			In Pounds	
1967	45,039	13,314	58,353	25.8	46.0	42.4	1,419	2,090,107	735.6	.9	1,341	112	2.9
1968–9	41,929	12,836	54,765	28.4	39.5	59.4	1,458	1,929,131	519.1	1.0	1,306	112	2.9
1969–0	36,303	10,843	47,146	30.6	33.3	58.5	1,351	1,795,738	581.6	2.8	924	112	2.9
1970–1	32,702	10,862	43,564	31.0	35.4	59.9	1,256	1,803,241	693.8	1.5	965	110	2.9
1971–2	32,370	15,315	47,685	33.9	37.3	71.8	1,510	2,167,797	590.2	1.1	1,225	110	2.9
1972–3	34,859	12,444	47,303	32.7	38.0	47.0	1,461	2,706,121	1,127.5	1.3	1,071	109	2.9
1973–4	38,747	15,401	54,148	31.6	48.4	28.1	1,634	6,744,631	1,106.7	2.6	2,387	112	2.9
1974–5	46,778	18,590	65,368	27.3	55.0	32.3	1,695	7,287,192	1,018	3.4	4,738	110	2.9
1975–6	51,307	18,084	69,391	30.6	— 95.3 —		2,027	7,534,851	1,173	2.4	5,001	113	2.9
1976–7	49,460	21,311	70,771	30.3	— 103.9 —		2,038	5,851,443	950	2.7	4,976	118	2.9
1977–8[4]	48,664	17,797	66,461	30.6	— 117.3 —		1,919	4,742,686	1,124	1.9	3,054	114	2.9
1978–9[4]	39,015	17,927	56,942	31.6	— 83.7 —		1,715	5,349,483	1,194	1.9	4,139	114	2.9
1979–0[4]	43,572	19,028	62,600	34.2				8,074,141					
1980–1													

[1] Civilian only. [2] Includes flour milled from imported wheat. [3] Total wheat, flour & other products. [4] Preliminary. [5] Year beginning June. *Source: Economic Research Service, U.S.D.A.*

Wheat Under Price Support Through the End of the Month (Cumulative Total from Current Season's Crop) In Millions of Bushels

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1967–8	35.5	75.7	139.6	174.4	190.9	208.2	238.2	247.2	256.7	263.4	268.3	270.1	281.7
1968–9	127.4	199.2	259.1	317.9	342.5	357.0	397.6	410.9	423.3	437.9	442.7	444.5	453.2
1969–0	124.4	221.3	297.1	336.3	347.0	353.2	384.5	391.1	397.2	402.8	405.8	406.9	411.0
1970–1	126.4	160.3	193.8	213.0	221.0	226.4	240.9	244.3	247.8	251.5	253.7	254.2	254.2
1971–2	77.2	134.3	252.2	318.2	342.5	359.3	408.9	420.1	427.9	434.3	437.4	438.0	438.1
1972–3	59.4	78.3	103.7	121.9	130.3	135.1	140.5	141.8	142.6	142.9	143.0	143.0	143.0
1973–4	32.2	42.2	50.9	55.0	58.1	59.7	59.9	59.9	59.9	59.9	59.9	59.9	59.9
1974–5	14.2	22.2	28.8	31.3	31.8	33.8	35.6	36.1	36.3	36.4	36.4	36.5	36.5
1975–6	12.5	16.4	18.8	23.8	26.4	39.3	45.8	46.8	47.4	47.8	47.8	47.8	47.8
1976–7	8.3	22.0	44.0	82.2	148.1	226.1	278.7	300.7	341.5	363.1	424.7	468.3	468.3
1977–8	186.9	327.2	406.7	438.7	462.8	478.7	509.2	523.6	556.4	572.6	579.5	582.1	582.1
1978–9	53.0	105.7	154.6	183.1	202.5	213.4	237.5	242.8	251.0	254.0	254.3	255.0	255.0
1979–0	6.5	30.1	55.6	82.8	103.3	115.5	138.2	145.4					
1980–1													

Source: Economic Research Service, U.S.D.A.

U.S. Wheat Foreign Trade and Domestic Disappearance In Millions of Bushels

Year Begin. June[2]	Imports (Grain Only) June[3] Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-May[4]	Total	Exports (Grain Only) June[3] Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-May[4]	Total	Domestic Disappearance June[3] Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-May[4]	Total
1967–8	.1	.2	.3	.3	.9	188.5	181.5	184.6	143.0	697.6	176.3	150.9	168.1	138.0	633.3
1968–9	.2	.2	.3	.4	1.1	120.5	142.6	66.2	141.7	471.0	278.3	173.6	156.8	126.7	735.4
1969–0[2]	.3	1.1	.7	.7	2.8	175.5	149.1	168.1	110.3	603.0	299.1	191.6	168.2	105.0	763.9
1970–1	.7	.2	.3	.3	1.5	222	212	180	128	741	324	167	170	110	772
1971–2	.4	.2	.3	.2	1.0	216	130	147	117	610	352	196	190	111	849
1972–3	.4	.3	.4	.2	1.3	289	288	310	248	1,135	370	184	162	82	798
1973–4	.5	.3	.3	1.5	2.6	526	341	232	119	1,217	331	183	149	91	754
1974–5	2.1	.6	.4	.2	3.3	330	283	255	150	1,019	232	172	191	78	672
1975–6	.7	.7	.3	.6	2.4	428	344	247	154	1,173	245	156	202	119	722
1976–7	.9	.4	.4	.1	2.7	399	220	179	152	950	222	187	214	127	749
1977–8	.8	.4	.4	.3	1.9	382	225	279	238	1,124	367	182	188	113	850
1978–9[1]	.6	.5	.5	.3	1.9	493	309	225	168	1,194	344	197	183	134	857
1979–0[1]	.7	.5	.5			511	388	283			284	169	209		
1980–1															

[1] Preliminary. [2] Data prior to 1969–70 are for crop year beginning July 1. [3] Data prior to 1969–70 are for July–Sept. [4] Data prior to 1969–70 are for Apr.–June. *Source: Crop Reporting Board, U.S.D.A.*

Wheat Stocks in the United States In Millions of Bushels

Year	On Farms Jan. 1	Apr. 1	June 1[2]	Oct. 1	Off Farms Jan. 1	Apr. 1	June 1[2]	Oct. 1	Total Stocks Jan. 1	Apr. 1	June 1[2]	Oct. 1
1968	505.2	361.0	229.5	727.8	704.5	477.1	309.0	951.5	1,209.7	838.1	538.5	1,679.3
1969	576.9	460.5	325.9	752.2	764.4	649.0	490.8	1,120.2	1,341.4	1,109.5	816.7	1,872.4
1970	609.4	456.5	307.1	663.7	923.4	740.7	577.8	1,124.8	1,532.8	1,197.2	884.9	1,788.5
1971	526.1	381.1	240.3	826.9	883.9	679.4	491.2	1,046.9	1,410.0	1,060.4	731.5	1,873.8
1972	694.5	525.7	355.1	730.2	853.1	685.0	508.2	1,140.7	1,547.6	1,210.7	863.3	1,870.9
1973	510.2	316.1	133.9	608.5	888.8	611.3	304.6	843.1	1,399.0	927.3	438.5	1,451.6
1974	364.4	181.7	89.5	680.5	564.0	366.4	158.2	881.7	928.3	548.1	247.7	1,562.1
1975	446.3	274.1	132.7	755.5	661.2	388.0	194.3	1,129.0	1,107.5	662.1	327.0	1,884.5
1976	547.6	342.6	235.5	833.3	838.0	594.2	429.8	1,354.9	1,385.7	936.8	665.3	2,188.2
1977	665.4	511.0	426.3	1,035.1	1,116.4	878.5	685.9	1,365.3	1,781.8	1,389.5	1,112.2	2,400.4
1978	831.3	639.9	492.9	1,033.7	1,162.5	887.8	683.8	1,104.2	1,993.8	1,527.7	1,176.7	2,137.9
1979[1]	816.4	629.6	484.9	1,031.3	816.4	596.2	439.8	1,240.7	1,632.8	1,225.8	924.7	2,272.1
1980[1]	772.4	569.9			943.5	655.3			1,716.0	1,225.2		
1981												

[1] Preliminary. [2] Data prior to 1976 are *as of July 1*. *Source: Crop Reporting Board, U.S.D.A.*

United States Wheat and Wheat Flour Imports and Exports In Thousands of Bushels

Year Beginning July	Imports: Wheat: Suitable for Milling	Unfit for Human Consumption	Flour (Wheat Equivalent)	Other Pdt's.[2] (Wheat Equivalent)	Total	Exports: Public Law 480: Sales for Foreign Currency[3]	Long-Term $ & Conver. for Cur. Credit Sales	Gov't. to Gov't. Donations[4]	Donations Thru Voluntary Relief Agencies	Barter for Strategic Materials	Mutual Security (A.I.D.)[5]	Total Specified Gov't. Programs
1967–68	—	460	27	438	925	225,308	117,729	26,654	12,547	—	746	382,984
1968–69	—	484	91	471	1,046	82,558	111,940	36,151	9,951	—	1,515	242,115
1969–70	794	1,417	55	567	2,833	69,447	154,697	33,668	11,430	—	—	269,242
1970–71	397	265	90	723	1,475	46,970	143,267	30,477	11,381	—	966	233,061
1971–72	101	82	89	781	1,053	22,686	153,382	37,858	13,006	—	754	227,686
1972–73	29	52	90	1,131	1,302	—	90,576	35,954	12,603	—	−86	139,047
1973–74	1,262	70	178	1,113	2,623	—	26,355	10,891	8,502	—	11,074	56,822
1974–75	1,734	109	387	1,134	3,364	—	102,269	6,705	7,873	—	—	116,847
1975–76	631	344	92	1,307	2,374	—	105,861	2,734	7,046	—	8,348	123,989
1976–77	1,298	20	32	1,381	2,731	—	133,504	8,887	17,842	—	15,836	158,277
1977–78[1]	424	2	20	1,475	1,921	—	126,801	6,962	13,140	—	13,779	160,682
1978–79												

[1] Preliminary. [2] Includes macaroni, semolina & similar pdt's. [3] Authorized by title I, P.L. 480. [4] Author. by title II, P.L. 480. [5] Foreign Assist. Act of 1961. *Source: Economic Research Service, U.S.D.A.*

WHEAT AND FLOUR

Comparative Average Cash Wheat Prices In Dollars per Bushel

Crop Year—June to May[3]	Received by U.S. Farmers	No. 2 Soft Red Winter Chicago	No. 1 Hard Red Ordin. Prot. Kansas City	No. 2 Soft Red Winter St. Louis	No. 1 Soft Red Winter Baltimore	No. 1 Dark Northern Spring —Minneapolis—	No. 2 Hard Amber Durum —Minneapolis—	No. 1 Soft Portland Oregon	No. 2 Western White Portland	No. 2 White Soft Toledo	No. 1 Hard Red Ordin. Prot. Gulf Ports	No. 2 No. Spring 14% Protein Duluth
1971–2	1.34	1.47	1.60	1.51		1.66	1.69	1.60		1.44		
1972–3	1.76	2.23	2.33	2.24		2.21	2.17	2.47	2.44	2.28		
1973–4	3.95	4.93	4.62	4.61	4.58	4.73	6.76	4.81	5.09	4.80	4.85	
1974–5	4.09	4.09	4.13	4.03	4.29	4.96	6.44	4.37	4.55	3.89	4.46	5.05
1975–6[3]	3.55	3.54	3.74	3.46	3.71	3.74	5.16	3.88	3.95	3.36	4.05	4.47
1976–7	2.73	2.81	2.88	2.78	2.91	2.96	3.30	3.10	3.16	2.75	3.14	3.36
1977–8	2.33	2.56	2.72	2.54	2.80	2.66	3.37	3.09	3.15	2.48	3.00	2.88
1978–9[1]	2.94	3.57	3.38	3.43		3.17	3.66	3.73	3.80	3.54	3.68	3.35

[1] Preliminary. [2] Estimate. [3] Data prior to 1975–6 are for crop year July to June. *Source: Economic Research Service, U.S.D.A.*

Production of Winter Wheat in the United States In Millions of Bushels

Year	Colorado	Idaho	Illinois	Indiana	Kansas	Michigan	Missouri	Montana	Nebraska	Ohio	Oklahoma	Pa.	Texas	Wash.	Total U.S.
1970	59.1	34.5	38.1	28.1	299.0	18.7	28.2	41.8	91.6	35.2	101.4	9.1	54.4	90.2	1,091.7
1971	59.1	37.8	46.0	31.9	312.6	17.8	31.0	54.8	102.2	41.5	72.0	9.4	31.4	108.3	1,145.0
1972	51.6	34.7	54.0	39.6	314.9	21.4	36.1	48.3	92.8	46.3	89.7	8.6	44.0	119.5	1,186.5
1973	63.2	32.8	39.0	24.6	384.8	19.9	25.5	55.1	93.8	25.6	157.8	7.4	98.6	74.2	1,278.2
1974	71.9	39.8	51.9	46.9	319.0	34.0	38.0	78.2	98.6	59.5	134.4	11.5	52.8	110.4	1,375.5
1975	56.6	36.1	67.5	61.6	350.9	34.2	48.5	105.0	98.2	70.6	160.8	10.1	131.1	137.0	1,640.4
1976	51.6	39.2	72.2	54.0	339.0	33.1	58.1	98.6	94.4	64.0	151.2	9.0	103.4	132.7	1,559.9
1977	56.1	32.4	67.5	55.8	344.9	33.0	68.6	81.2	103.3	72.4	175.5	8.9	117.5	95.2	1,537.1
1978	57.3	44.0	35.3	31.8	306.0	18.0	28.6	83.7	81.6	43.9	145.8	8.1	54.0	119.6	1,247.7
1979[1]	67.6	35.7	55.9	44.4	410.4	33.8	70.4	57.4	86.7	63.4	216.6	8.1	138.0	94.6	1,608.9

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

Production of All Spring Wheat in the United States In Millions of Bushels

	Durum Wheat						Other Spring Wheat									
Year	Arizona	Minnesota	Montana	North Dakota	South Dakota	Total Durum	Colorado	Idaho	Minnesota	Montana	North Dakota	Oregon	South Dakota	Utah	Washington	Total U.S.
1971		1.9	3.7	82.1	3.8	91.8	.6	12.1	56.8	53.5	207.7	2.5	41.8	.9	5.0	381.8
1972		1.0	4.2	65.5	2.1	72.9	.4	9.5	47.5	46.3	149.1	1.7	27.0	.7	3.8	286.8
1973		2.1	4.0	69.6	2.7	78.5	.5	15.6	74.9	37.6	169.7	2.4	36.1	1.4	15.0	354.1
1974		2.4	5.1	70.8	2.9	81.2	.7	22.1	77.4	36.9	136.5	5.4	29.9	1.7	13.2	325.1
1975		2.8	10.1	104.9	4.4	123.4	.7	24.0	83.7	40.8	156.3	4.0	35.1	1.5	10.9	358.7
1976	23.9	2.7	8.6	90.5	1.6	134.9	1.6	29.2	123.5	60.2	193.6	4.2	20.5	1.3	11.3	447.5
1977	6.1	2.8	4.8	60.5	3.3	80.0	1.1	18.4	125.6	44.9	167.0	2.4	51.7	.6	6.1	419.2
1978	6.4	3.8	8.7	102.1	3.8	133.3	1.8	30.7	87.8	53.7	180.1	4.6	44.0	1.0	11.2	416.5
1979[1]	5.3	2.8	6.8	84.5	3.6	106.7	2.6	38.4	85.8	52.3	165.1	9.3	46.0	1.6	23.4	426.2

[1] Preliminary, December estimate. *Source: Crop Reporting Board, U.S.D.A.*

United States Official Winter Wheat Crop Production Reports In Thousands of Bushels

Crop Year	Previous December	April 1	May 1	June 1	July 1	August 1	Sept. 1	Current December	Final
1970	1,030,188	1,064,855	1,094,340	1,076,445	1,094,490	1,111,853	1,108,941	1,118,839	1,091,744
1971	1,040,148	—	1,020,566	1,048,134	1,116,780	1,156,098	1,162,660	1,163,420	1,145,011
1972	1,291,428	—	1,149,064	1,192,478	1,195,199	1,196,353	1,198,103	1,227,848	1,186,498
1973	1,277,848	—	1,281,999	1,315,672	1,319,702	1,293,053	1,291,463	1,269,653	1,278,220
1974–5	1,513,462	—	1,612,106	1,531,355	1,402,445	1,393,460	1,390,800	1,391,303	1,375,526
1975–6	1,599,527	—	1,619,776	1,618,598	1,636,524	1,634,227	1,650,037	1,651,209	1,640,396
1976–7	1,495,869	—	1,458,996	—	1,530,124	1,542,660	1,542,330	1,566,074	1,559,923
1977–8	1,438,015	—	1,477,455	—	1,539,029	1,526,029	1,528,844	1,526,713	1,537,113
1978–9	1,321,068	—	1,284,375	—	1,801,705	1,248,405	1,243,685	1,248,272	1,247,706
1979–0	1,441,306	—	1,390,848	—	1,560,768	1,602,901	1,595,591	1,608,897	
1980–1	1,567,817	—	1,711,010						

Source: Crop Reporting Board, U.S.D.A.

Supply and Distribution of Wheat in the United States In Millions of Bushels

Crop Yr. Beginning June[5]	Supply							Domestic Disappearance							Total Disappearance
	Stocks, June 1[5]										Feed				
	On Farms	Mills, Elevators[3]	C.C.C.	Total Stocks	Production	Imports[4]	Total Supply	Food	Seed	Industry	Residual	(On Farms Where Grown)	Total Dom. Disap.	Exports[4]	
1967-8	144.9	278.5	1.0	424.4	1,507.6	.9	1,933	519.2	71.3	.1	42.6	(42.9)	633.3	761.1	1,394
1968-9	229.5	308.3	.7	538.5	1,556.6	1.0	2,096	519.7	61.3	.1	154.3	(60.8)	735.4	544.2	1,280
1969-0[5]	325.9	490.0	.8	816.7	1,442.7	2.8	2,349	520.1	55.6	.5	188	(61.0)	763.9	603.0	1,367
1970-1	307.1	576.6	1.2	984	1,351.6	1.5	2.236	517.2	62.1	.1	193	(62.0)	772.0	740.8	1,513
1971-2	240.3	489.4	1.8	822	1,618.6	1.1	2,442	523.7	63.2	.1	261	(71.7)	849.3	609.7	1,458
1972-3	355.1	506.3	1.8	985	1,546.2	1.3	2.530	526.9	67.2	.1	203	(47.0)	798.8	1,135.0	1,933
1973-4	133.9	302.8	1.8	599	1,710.8	2.6	2,311	530.3	84.1	—	139	(31.5)	753.5	1,217.0	1,971
1974-5	89.5	157.9	.3	340.1	1,781.9	3.4	2,125	540.8	92	—	— 39.1 —		671.9	1,018.5	1,690
1975-6	132.7	194.3	—	435.0	2,122.5	2.4	2.560	587.5	99	.1	— 35.1 —		721.7	1,172.9	1,895
1976-7	235.5	429.8	—	665.3	2,142.4	2.7	2,810	588.0	92	.1	— 68.4 —		748.6	949.5	1,698
1977-8	426.3	685.9	—	1,112.2	2,036.3	1.9	3,151	586.5	80	.1	—183.3—		849.9	1,123.9	1,974
1978-9[1]	492.9	683.8	—	1,176.1	1,797.5	1.9	2,976	591.6	87	.1	—178.6—		857.3	1,194.1	2,051
1979-0[2]	484.9	439.8	—	924.7	2,141.7	2.1	3,069	600	95	—	— 75.0 —		770	1,325	2,095
1980-1															

[1] Preliminary. [2] Estimated. [3] Also warehouses and all off-farm storage not otherwise designated, including flour mills. [4] Imports & exports are for wheat, including flour & other products in terms of wheat. [5] Prior to 1969-70, data are for crop year beginning July 1. *Source: Economic Research Service, U.S.D.A.*

Exports of Wheat (Only) from the United States In Millions of Bushels

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1967-8	57.4	63.1	68.4	56.8	68.9	55.2	58.7	65.4	59.1	58.0	39.1	45.6	695.7
1968-9	48.0	46.5	25.2	37.9	44.0	60.3	13.9	15.1	37.4	48.8	51.2	39.5	467.8
1969-0	41.8	32.4	32.9	40.5	38.4	48.1	51.7	51.4	44.6	54.4	43.4	48.3	527.9
1970-1	47.9	56.3	49.9	69.0	60.3	61.6	59.3	46.7	59.9	50.7	66.7	43.4	671.7
1971-2	47.4	38.3	59.4	31.7	39.5	45.2	36.5	45.6	49.8	47.3	59.6	66.9	567.2
1972-3	58.8	68.1	69.0	82.6	83.5	107.3	101.9	92.9	98.7	108.3	128.8	126.1	1,127.0
1973-4	115.2	149.1	131.6	122.1	120.5	89.5	83.1	72.8	63.9	55.7	55.0	56.9	1,115.4
1974-5	82.8	91.6	86.0	91.3	98.3	82.3	108.4	71.3	65.2	77.0	65.3	77.2	996.7
1975-6	99.7	111.2	125.5	123.6	117.8	92.3	91.6	72.4	76.4	76.8	67.8	66.7	1,121.8
1976-7	85.4	113.0	109.9	98.7	53.3	56.9	49.0	57.7	50.7	68.1	66.4	75.6	884.7
1977-8	82.8	93.4	108.5	68.3	56.7	86.7	64.6	94.5	103.3	101.8	118.8	108.8	1,088.2
1978-9	106.1	131.9	118.3	113.0	92.3	90.0	70.4	67.1	75.5	77.0	76.8	102.2	1,120.6
1979-0	133.3	117.8	129.6	149.0	108.9	114.9	82.7	89.5					
1980-1													

Source: Department of Commerce

Average Price of No. 1 Hard Winter (Ordinary Protein) Wheat, at Kansas City In Cents per Bushel

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1967-8	161	156	157	159	156	158	160	161	160	154	153	144	157
1968-9	137	135	134	140	142	140	141	140	140	139	139	135	138
1969-0	128	131	139	143	146	146	146	146	145	147	144	140	142
1970-1	138	147	159	158	159	159	158	158	155	156	161	163	156
1971-2	154	154	153	156	156	158	158	157	158	161	162	152	157
1972-3	158	182	210	215	225	262	267	248	242	251	263	269	233
1973-4	290	467	501	467	478	522	568	582	501	407	359	405	462
1974-5	436	433	435	494	488	466	415	393	369	366	334	323	413
1975-6	361	412	421	409	371	350	357	381	381	361	357	375	374
1976-7	363	321	301	277	262	264	270	273	263	252	236	231	288
1977-8	235	231	247	256	281	280	282	284	307	321	312	312	272
1978-9	314	314	324	342	348	339	342	350	352	353	364	417	338
1979-0	434	412	426	439	453	451	433	432	407	390			
1980-1													

Source: Agricultural Marketing Service, U.S.D.A.

WHEAT AND FLOUR

United States Wheat Quarterly Supply and Disappearance In Millions of Bushels

Year & Begin. June 1	Supply				Disappearance: Domestic Use							Ending Stocks		
	Beginning Stocks	Production	Imports[2]	Total Stocks	Food	Alc. Beverages	Seed	Feed[3]	Total	Exports[2]	Total Disappearance	Gov't Owned[4]	Privately Owned[5]	Total Stocks
1974–5	340	1,782	3.4	2,125	540.8	[6]	92.0	39.1	671.9	1,019	1,690	—	435.0	435.0
June–Sept.	340	1,782	2.2	2,124	176.6	[6]	34.0	21.0	231.6	330.4	562.0	—	1,562	1,562
Oct.–Dec.	1,562	—	.6	1,563	142.4	[6]	32.0	-2.2	172.2	283.0	455.2	—	1,108	1,108
Jan.–Mar.	1,108	—	.4	1,108	129.0	[6]	.6	60.9	190.5	255.3	445.8	—	662.1	662.1
Apr.–May	662	—	.2	662	92.8	[6]	25.4	-40.6	77.5	149.8	227.3	—	435.0	435.0
1975–6	435	2,123	2.4	2,560	587.5	.1	99.0	35.1	721.7	1,173	1,895	—	665.3	665.3
June–Sept.	435	2,123	.7	2,558	195.0	[6]	33.0	17.2	245.2	428.4	673.6	—	1,885	1,885
Oct.–Dec.	1,885	—	.7	1,885	149.9	[6]	35.0	-28.8	156.1	343.6	499.6	—	1,386	1,386
Jan.–Mar.	1,386	—	.3	1,386	148.5	[6]	1.0	52.4	201.9	247.3	449.2	—	936.8	936.8
Apr.–May	937	—	.6	937	94.2	[6]	30.0	-5.7	118.5	153.7	272.1	—	665.3	665.3
1976–7	665	2,142	2.7	2,810	588.0	.1	92.0	68.4	748.6	949.5	1,698	—	1,112	1,112
June–Sept.	665	2,142	.9	2,809	200.4	[6]	32.0	-11.0	221.5	398.8	620.3	—	2,188	2,188
Oct.–Dec.	2,188	—	.4	2,189	152.5	[6]	34.0	[6]	186.6	220.3	406.8	—	1,782	1,782
Jan.–Mar.	1,782	—	.4	1,782	147.3	[6]	1.0	65.5	213.8	178.8	392.6	—	1,390	1,390
Apr.–May	1,390	—	1.1	1,391	87.9	[6]	25.0	13.9	126.7	151.6	278.4	—	1,112	1,112
1977–8	1,112	2,036	1.9	3,151	586.5	.1	80.0	183.3	849.9	1,124	1,974	45.7	1,131	1,177
June–Sept.	1,112	2,036	.8	3,149	193.3	[6]	33.0	141.1	367.3	381.7	749.0	8.2	2,392	2,400
Oct.–Dec.	2,400	—	.4	2,401	153.5	[6]	23.0	5.1	181.6	225.4	407.0	31.8	1,962	1,994
Jan.–Mar.	1,994	—	.4	1,994	145.5	[6]	1.0	41.4	187.9	278.5	466.5	44.8	1,483	1,528
Apr.–May	1,528	—	.3	1,528	94.3	[6]	23.0	-4.3	113.0	238.2	351.3	45.7	1,131	1,177
1978–9[1]	1,177	1,798	1.9	2,976	591.6	.1	87.0	178.6	857.3	1,194	2,051	50.2	874.5	924.7
June–Sept.	1,177	1,799	.6	2,975	191.7	[6]	27.0	124.9	343.6	493.3	836.9	48.9	2,089	2,138
Oct.–Dec.	2,137	—	.5	2,138	153.8	[6]	34.0	9.0	196.7	308.8	505.6	49.5	1,583	1,633
Jan.–Mar.	1,632	—	.5	1,633	147.4	[6]	1.0	34.6	183.0	224.5	407.5	49.5	1,176	1,226
Apr.–May	1,226	—	.3	1,226	98.7	.1	25.0	10.1	133.9	167.5	301.4	50.2	874.5	924.7
1979–0[7]	924.7	2,142	2.1	3,069	600.0	—	95.0	75.0	770.0	1,325	2,095			973.5
June–Sept.	924.7	2,142	.7	3,067	198.0	[6]	33.0	53.1	284.1	511.0	795.1	49.9	2,222	2,272
Oct.–Dec.	2,272	—	.5	2,273	157.6	[6]	35.0	-23.9	168.7	387.9	556.6	49.6	1,666	1,716
Jan.–Mar.	1,716	—	.5	1,717	148.1	.1	1.0	59.4	208.6	282.7	491.3	63.3	1,162	1,225
Apr.–May														

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[1] Preliminary. [2] Imports & exports include flour and other products expressed in wheat equivalent. [3] Residual. [4] Uncommitted, Gov't. only. [5] Includes total loans. [6] Less than 50,000 bushels. [7] Projected.
Source: Economics Research Service, U.S.D.A.

Wheat Government Loan Program Data in the United States Loan Rates (Cents Per Bushel)

Crop Year Beginning June	Total Support Rate	National Avg.[1]	Average Extra Payment	No. 1 Dk. No. Spring Minneapolis	No. 1 Hard Red Winter Kansas City	No. 1 Soft White Portland	Placed Under Loan	Direct Purchases	Total	Delivered to CCC	Total Stocks Ending May 31					
							Millions of Bushels				Ending Carry-over	CCC Uncommitted	Privately Owned: Under Loan: Current Crop	Privately Owned: Under Loan: Previous	Privately Owned: Sealed Under Bond	Other
1968–9	183	125	55	156	144	144	445.0	8.2	453.2	177.7	904.0	141.9	168.6	325.0	6	262.5
1969–0	194	125	65	157	145	145	406.9	.7	407.6	95.7	982.6	279.0	95.9	381.0	5	221.7
1970–1	200	125	75	159	147	146	254.2	—	254.2	5.2	822.8	352.6	47.6	191.7	8	222.9
1971–2	179	125	54	162	149	147	438.1	22.5	460.6	35.1	983.4	355.1	180.6	198.6	13	236.1
1972–3	172	125	47	163	150	148	143.0	24.1	167.1	24.1	597.1	6.3	23.9	101.8	11	454.1
1973–4	146	125	21	131	124	125	59.9	—	59.9	—	340.1	.6	.4	.1	—	339.0
1974–5	205	137	68	139	139	141	36.5	.8	37.3	0	435.0	—	4.3	—	—	430.7
1975–6[2]	205	137		138	138	142	47.8	3.7	51.5	0	665.3	—	21.4	—	—	665.3
1976–7[2]	229	225		227	225	232	498.8			48.0	1,112					1,112.2
1977–8[2]	247	225		226	219	231	590.8			2.2	1,177					1,131.0
1978–9[2]	340	235		234	228	241	254.3			—	924.7					874.5
1979–0[2]	340	250		248	243	257					973.5					
1980–1																

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[1] The national average loan rate at the farm as a percentage of the parity priced wheat at the beginning of the marketing year.
[2] Preliminary. *Source: Agricultural Marketing Service, U.S.D.A.*

Average Price of No. 1 Dark Northern Spring Wheat at Minneapolis (14%[1] Protein) In Cents per Bushel

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1968–9	168	168	178	185	181	177	184	182	184	181	182	179	179
1969–0	182	173	179	180	183	184	184	184	183	189	190	192	184
1970–1	190	187	192	196	197	190	190	187	182	183	182	180	188
1971–2	173	166	172	177	172	172	174	169	170	173	176	170	172
1972–3	174	196	209	214	222	242	242	229	233	239	257	280	228
1973–4	307	450	480	450	448	498	552	583	533	441	423	507	473
1974–5	536	507	520	563	562	538	480	449	453	456	443	430	494
1975–6	469	490	512	503	474	446	454	470	466	448	465	475	469
1976–7	444	379	356	341	330	314	313	315	313	309	291	271	348
1977–8[1]	254	248	275	287	296	292	294	290	303	323	327	321	288
1978–9	311	313	326	341	347	332	330	336	342	345	373	432	335
1979–0	442	419	429	445	429	417	407	408	402	396			
1980–1													

[1] Prior to 1977–8, prices are for 15% protein. *Source: Agricultural Marketing Service, U.S.D.A.*

Average Price[1] Received by Farmers for Wheat in the U.S. In Cents per Bushel

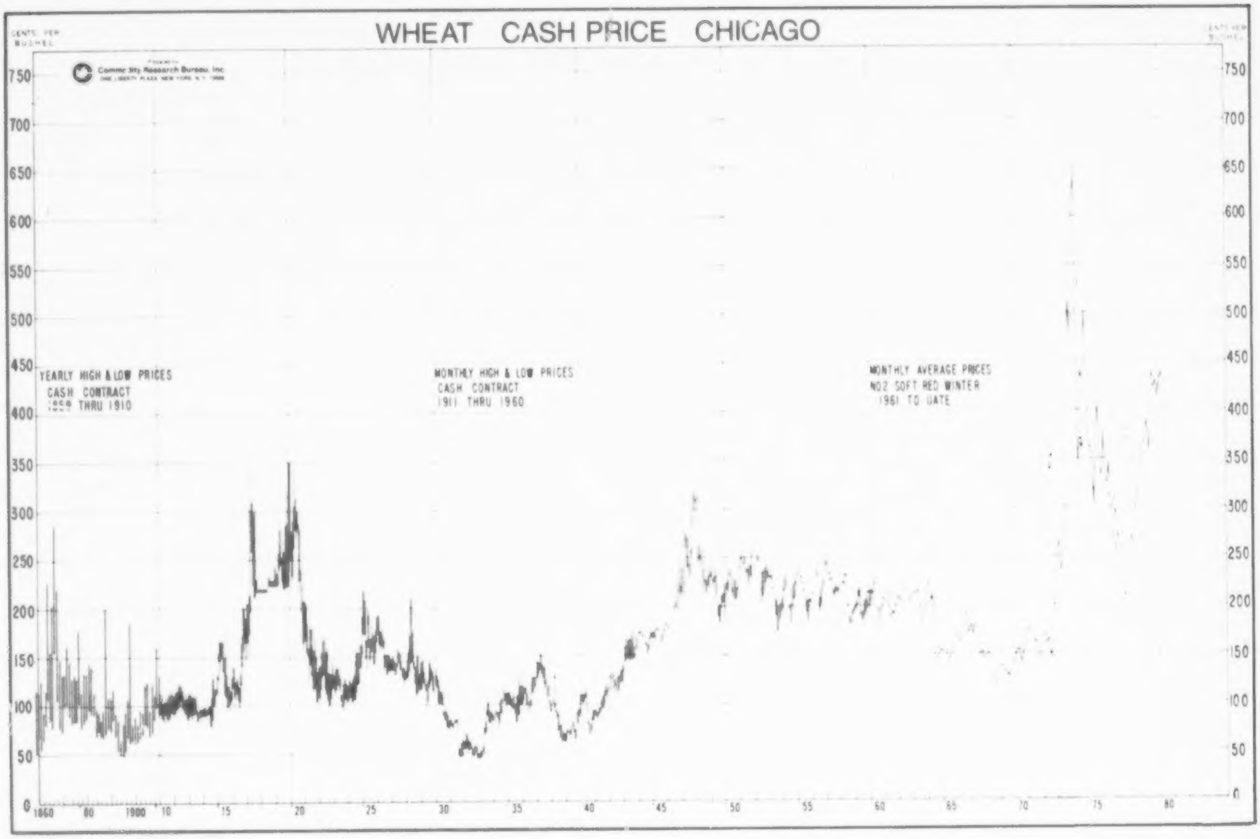
Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average[2]
1968–9	119	119	122	126	129	126	127	128	128	128	128	122	124
1969–0	115	119	124	128	129	130	129	130	128	132	131	123	124
1970–1	123	131	141	143	145	141	140	141	139	140	143	146	133
1971–2	134	128	126	130	131	134	133	134	134	136	138	133	131
1972–3	132	151	173	189	197	238	238	197	206	215	215	243	176
1973–4	247	445	462	422	420	478	529	552	496	398	352	357	396
1974–5	404	424	432	485	487	465	411	395	365	369	347	292	404
1975–6	333	389	411	402	358	341	343	366	365	350	343	346	355
1976–7	333	297	288	259	246	239	243	247	243	237	219	203	273
1977–8	204	213	216	230	246	247	253	259	267	282	282	281	233
1978–9	281	288	292	299	304	301	299	299	297	301	320	372	294
1979–0	389	374	387	398	394	380	374	378	364	340			
1980–1													

[1] Weighted average by sales. [2] Includes an allowance for unredeemed loans at average loan values.
Source: Statistical Reporting Service, U.S.D.A.

Open Interest of All Wheat Futures Contracts at the Chicago Board of Trade[1] In Millions of Bushels

Year	End of Month												Kansas City[3]		Minn.[2]
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. 1	July 1	Jan. 1
1967	138.7	150.7	171.3	155.5	161.6	169.5	222.1	243.8	240.2	232.2	213.8	210.4	34.3	42.3	7.6
1968	173.9	143.0	121.9	103.1	110.7	135.1	189.5	202.9	218.7	227.4	215.7	208.9	48.1	51.5	7.6
1969	182.9	144.0	119.6	104.6	97.3	95.1	118.0	121.6	122.1	114.5	101.6	99.0	36.4	28.9	9.7
1970	91.7	93.5	81.2	76.9	66.5	69.5	93.1	90.4	96.8	98.0	88.6	85.5	34.0	34.3	8.8
1971	86.0	74.6	62.1	61.3	58.7	73.1	80.6	81.1	81.6	79.6	83.9	66.3	32.5	28.7	6.8
1972	61.8	66.2	53.1	52.6	50.3	60.0	77.6	100.1	98.6	109.2	112.3	95.2	21.2	26.9	5.9
1973	115.3	114.5	107.1	125.8	119.8	110.0	92.9	90.3	98.2	108.2	114.5	134.4	77.8	46.1	32.4
1974	154.1	161.5	154.8	144.8	136.9	136.4	147.4	147.5	153.0	164.5	150.6	150.0	53.2	48.0	30.3
1975	149.3	149.9	137.4	143.0	133.8	139.7	188.6	199.7	224.7	222.5	199.9	181.4	55.1	61.0	31.7
1976	165.8	206.7	202.9	171.2	183.5	226.4	237.2	227.2	233.8	270.2	260.5	229.4	102.5	120.6	27.4
1977	220.0	238.0	203.0	196.6	183.0	200.1	207.6	208.1	240.9	248.2	236.9	245.1	107.4	81.6	27.4
1978	229.4	200.7	180.6	164.9	193.2	163.1	190.0	240.9	255.9	241.7	240.4	186.4	102.7	84.8	25.9
1979	195.0	195.1	173.5	187.2	176.0	250.2	258.6	302.6	319.7	284.1	287.5	286.9	84.7	120.1	35.3
1980	279.5	266.6	222.5	214.2	213.5								121.0		31.5

[1] Chicago Board of Trade. [2] Minneapolis Grain Exchange. [3] Kansas City Board of Trade.
Source: Commodity Futures Trading Commission



Average Price of No. 2 Soft Red Winter Wheat at Chicago in Dollars per Bushel

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1967–8	1.50	1.49	1.51	1.52	1.45	1.46	1.49	1.51	1.50	1.41	1.38	1.30	1.46
1968–9	1.28	1.22	1.20	1.25	1.32	1.33	1.38	1.36	1.32	1.32	1.33	1.28	1.30
1969–0	1.30	1.27	1.31	1.36	1.41	1.48	1.49	1.55	1.53	1.55	1.48	1.41	1.43
1970–1	1.45	1.52	1.67	1.74	1.77	1.74	1.75	1.74	1.70	1.67	1.61	1.64	1.67
1971–2	1.54	1.45	1.45	1.53	1.60	1.71	1.69	1.61	1.62	1.66	1.63	1.46	1.58
1972–3	1.53	1.76	2.02	2.11	2.28	2.60	2.65	2.47	2.37	2.45	2.71	2.82	2.31
1973–4	3.08	4.75	5.11	4.75	5.47	5.84	6.30	6.50	5.59	4.33	3.48	3.91	4.93
1974–5	4.40	4.34	4.41	5.03	4.86	4.69	4.02	3.84	3.62	3.63	3.25	3.03	4.09
1975–6	3.42	3.82	4.06	3.84	3.49	3.32	3.45	3.78	3.66	3.34	3.30	3.47	3.54
1976–7	3.37	3.01	2.89	2.72	2.60	2.66	2.73	2.74	2.63	2.53	2.35	2.29	2.81
1977–8	2.20	2.08	2.20	2.27	2.59	2.65	2.69	2.64	2.82	3.11	3.14	3.18	2.56
1978–9	3.22	3.32	3.42	3.51	3.68	3.68	3.73	3.88	3.79	3.60	3.86	4.36	3.57
1979–0	4.39	4.23	4.28	4.30	4.13	4.26	4.36	4.39	4.18	3.96			
1980–1													

Source: Agricultural Marketing Service, Grain Division, U.S.D.A.

Commercial Stocks of Domestic Wheat[1] in the United States, at First of Month In Millions of Bushels

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1967–8	129.9	188.2	245.0	234.2	226.1	194.5	171.5	156.4	150.7	144.1	113.5	95.9
1968–9	132.8	205.6	217.9	220.6	215.1	186.3	170.4	168.8	169.7	157.9	142.4	138.4
1969–0	170.0	261.5	284.3	293.4	279.8	263.5	246.7	229.6	218.8	200.1	178.5	174.8
1970–1	215.0	205.6	289.0	302.6	302.6	285.6	253.0	241.8	215.9	184.8	176.1	151.4
1971–2	159.9	195.1	209.6	223.5	211.9	205.0	194.8	179.9	170.3	218.8	181.3	175.2
1972–3	206.5	268.1	324.2	372.3	356.0	323.1	297.2	267.7	241.2	212.9	174.2	124.1
1973–4	149.8	196.9	215.2	208.2	185.1	158.8	146.6	141.4	128.4	117.2	97.6	85.4
1974–5	162.9	253.1	217.4	267.5	276.3	256.6	217.8	179.3	149.5	126.6	105.3	83.0
1975–6	172.5	313.9	380.2	415.8	398.0	338.1	274.7	238.8	220.1	209.0	179.6	168.7
1976–7	291.9	420.3	461.6	504.9	477.5	432.3	416.5	388.2	370.0	350.4	332.7	
1977–8	383.9	469.3	526.5	509.0	488.0	460.2	418.6	385.4	355.8	321.5	281.9	240.5
1978–9	250.9	305.6	319.9	318.9	272.0	246.9	223.1	199.1	181.1	166.6	144.7	131.0
1979–0	197.0	326.8	360.0	371.4	338.2	302.9	274.5	259.0	253.4	239.4		
1980–1												

[1] Domestic wheat in store in public and private elevators in 39 markets and wheat afloat in vessels or barges at lake and seaboard ports, the first Saturday of the month. *Source: Department of Agriculture*

Commercial Stocks of Canadian Wheat[1] in Canada, at First of Month In Thousands of Metric Tons[2]

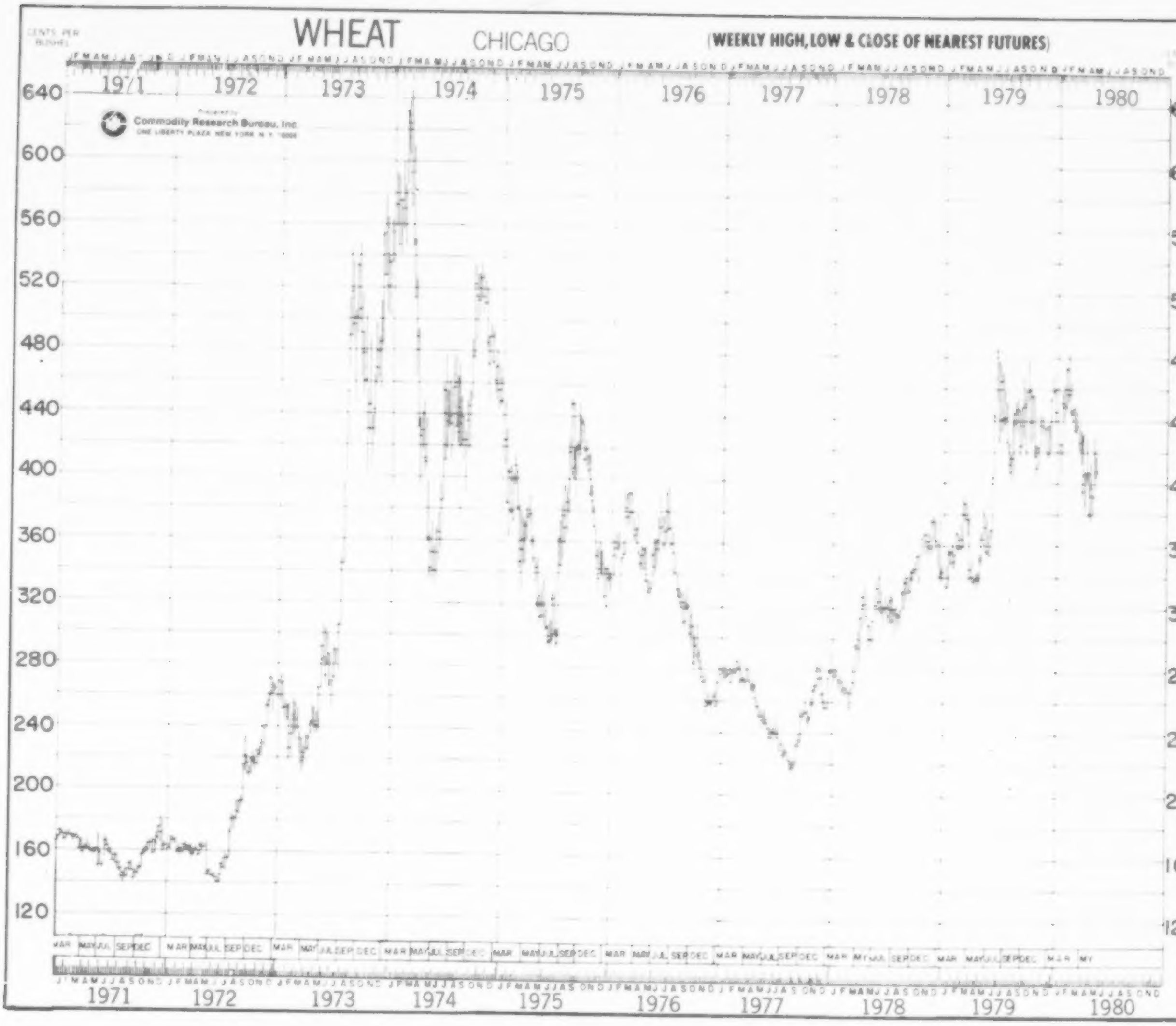
Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1967–8	332.6	361.7	355.7	387.8	393.3	405.8	444.6[2]	454.2[2]	454.6[2]	450.1[2]	430.1[2]	426.1[2]
1968–9	426.8	417.7	403.7	389.5	400.0	420.1	421.8	403.5	396.2	403.4	412.2	402.5
1969–0	425.1	474.7	474.4	469.3	453.7	435.3	426.7	417.6	417.8	418.4	401.6	394.4
1970–1	401.8	437.2	402.8	411.9	379.5	364.4	371.1	359.7	353.8	347.2	330.5	310.0
1971–2	334.4	304.6	311.2	316.4	312.1	296.0	306.6	302.5	290.8	275.7	265.2	255.0
1972–3	287.2	276.2	290.4	277.4	293.8	292.6	291.5	285.7	264.2	218.7	214.0	178.1
1973–4	172.8	205.1	192.3	208.2	213.3	198.7	185.6	177.9	194.0	197.7	181.5	171.6
1974–5	211.0	241.9	217.1	222.4	203.9	204.0	202.8	199.3	192.0	198.3	167.7	151.9
1975–6	163.3	190.7	183.0	207.2	219.6	220.8	217.2	209.9	203.1	187.3	178.0	151.5
1976–7	153.6	183.5	185.6	222.8	223.9	244.2	253.0	236.7	233.7	220.5	208.5	189.8
1977–8[2]	4,905	4,985	5,477	6,263	6.358	5,948	5,645	5,108	5,159	5,194	4,987	4,711
1978–9	5,612	6,251	6,045	5,596	5,131	5,034	5,113	4,799	4,799	4,894	4,637	4,147
1979–0	4,810	5,149	5,581	5,990	5,992	5,754	6,172	6,069	5,731	5,260		
1980–1												

[1] Canadian wheat in Canada exclusive of farm stocks, first Wednesday of month. [2] Data prior to July 1977 are in millions of bushels. *Source: Board of Grain Commissioners of Canada*

United States Grindings of Wheat by Mills In Millions of Bushels (of 60 Pounds Each)

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1967–8	42.8	48.9	47.2	49.1	47.0	46.5	48.4	45.6	49.0	44.5	44.4	44.1	557.6
1968–9	45.9	49.0	48.0	53.6	49.5	47.7	45.9	42.0	46.1	45.6	47.6	46.5	567.4
1969–0	44.1	48.0	49.5	51.9	49.3	51.3	48.9	47.4	47.4	45.8	44.5	44.1	572.2
1970–1	44.7	47.4	49.4	51.7	46.2	46.1	46.4	44.0	46.7	43.5	45.0	46.7	557.8
1971–2	45.2	49.4	49.3	48.2	44.5	46.3	45.9	44.5	46.9	43.8	46.9	47.2	558.1
1972–3	44.2	47.5	47.7	50.1	46.8	46.4	47.5	44.5	46.8	42.8	45.8	43.8	553.9
1973–4	44.7	48.9	48.1	49.3	46.3	46.9	48.9	45.0	46.1	41.4	42.2	41.6	549.4
1974–5	42.2	45.6	47.0	51.5	47.0	44.3	43.9	39.7	42.8	46.4	45.7	44.4	540.5
1975–6	47.4	49.0	51.2	54.1	45.2	46.0	47.2	44.7	48.8	47.2	46.8	47.6	575.2
1976–7	49.3	54.6	52.2	51.2	47.5	46.9	48.0	48.0	54.4	46.4	46.9	46.3	591.7
1977–8[1]	43.5	51.7	49.3	49.4	53.2	52.1	48.4	48.9	54.8	50.5	53.6	51.5	606.9
1978–9[1]	49.7	56.1	50.5	55.3	52.9	48.9	50.9	48.2	52.5	50.2	55.1	50.3	620.6
1979–0[1]	52.0	58.9	52.3	58.8	55.6	50.5	55.0						
1980–1													

[1] Preliminary. *Source: Bureau of the Census*



Volume of Trading in Wheat Futures at Chicago Board of Trade In Millions of Bushels

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1967–8	1,088	1,303	864.9	608.2	832.6	637.8	653.0	522.2	705.2	715.4	587.7	741.2	9,259.5
1968–9	813.3	859.5	742.3	724.0	623.4	500.0	420.6	417.0	464.2	471.4	447.2	447.3	6,930.2
1969–0	571.9	471.1	365.8	282.6	233.2	271.0	200.0	299.1	221.2	238.9	256.1	302.9	3,714
1970–1	458.3	534.0	491.1	377.4	343.0	293.3	230.2	247.6	230.7	338.2	267.1	424.1	4,235
1971–2	421.1	371.0	328.9	330.4	322.3	338.7	273.3	244.2	233.0	242.1	197.2	233.1	3,535
1972–3	516.7	1,065	981.7	809.6	774.7	835.4	767.3	810.6	782.5	725.5	927.6	765.1	9,764
1973–4[1]	898.0	758.8	1,018	1,087	1,131	1,130	1,153[1]	970.6	1,137	922.4	864.0	1,026	12,096
1974–5	1,285	1,049	907	1,154	810	653	902	731	768	637	682	858	10,436
1975–6	1,520	1,313	1,062	1,159	960	721	848	1,399	1,472	1,288	1,121	1,758	14,621
1976–7	1,796	1,228	1,876	1,180	1,005	601	577	810	888	693	597	846	12,097
1977–8	824	623	777	740	982	747	694	713	1,130	1,179	1,063	1,122	10,594
1978–9	1,133	1,312	1,034	1,260	1,272	878	889	843	805	660	1,092	1,878	13,056
1979–0	1,932	1,806	1,642	2,714	1,858	1,551	2,064	2,216					
1980–1													

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[1] Data prior to Jan. 1973 are for AT ALL "CONTRACT" MARKETS IN THE U.S.

Source: Commodity Futures Trading Commission

Highest and Lowest Prices of May Wheat Futures on the Chicago Board of Trade In Cents per Bushel

Year of Delivery		Year Prior to Delivery							Delivery Year					
		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	Range
1967	High	202	202	203½	207	186½	189⅜	189¼	179⅝	180½	187	182¼	166¾	207
	Low	176¾	188	192	180½	174¼	174½	177⅜	163⅞	163⅝	172¼	160½	160	160
1968	High	187½	170⅝	169⅝	165½	163¾	161½	156¼	153½	152⅞	156	148	138⅛	187½
	Low	168	162	157⅜	157⅝	159¾	152½	150½	149⅜	149¼	146¾	133⅛	132⅝	132⅝
1969	High	153½	146	139¾	133⅞	139½	142¼	137⅞	139¼	137¼	134⅛	133⅛	135	153½
	Low	143¾	139¼	128⅞	127	129⅜	135⅜	132⅜	134¾	131¼	125⅛	125¾	128½	125⅛
1970	High	143⅜	141¾	137¾	139½	142¾	144	147	145½	149¾	148¼	153	151¾	153
	Low	138¾	130¼	131⅛	135¾	137¾	139¼	141	140⅛	140⅜	142⅞	144½	145¼	130¼
1971	High	153½	156	167⅞	174¾	175⅞	178¾	172⅞	170⅜	168	164⅛	166½	170	178¾
	Low	141¼	146¾	147⅝	162½	167⅛	168⅛	163¼	162	160¼	157¼	157⅛	157¼	141¼
1972	High	174⅛	163⅛	153⅝	152⅞	155½	156⅛	160½	158⅞	157	159½	165⅛	165¾	174⅛
	Low	159	150	144⅞	143⅛	144	147⅛	149⅝	152¼	148½	153¼	155½	156	143⅛
1973	High	151¼	166	200½	228½	223½	239¾	269½	266¾	257	249	254	275¼	275¼
	Low	146⅞	153¼	164¾	198⅝	205½	218	240⅝	233½	217	211	223½	235	146⅞
1974	High	289	321¾	473	518	479	465	537	574	636	594	448	384	636
	Low	249¼	250½	327	420	376½	374	444	514	525	431½	380	331	249¼
1975	High	485½	483	495½	507	557	545½	515	461¾	410	390	390	335½	557
	Low	367	412	431	421	485½	481½	441	360	343½	329½	334	308	308
1976	High	356¾	420	481	459	450	404	373	371	404	402	357½	355½	481
	Low	320	323½	394½	419	396	348	333	337	354½	342	325	328	320
1977	High	—	437	372½	361¼	327½	295¼	287	291½	296	286	275	257¾	437
	Low	—	372	337¾	304¼	285	263	269	277¼	273	270	254	242½	242½
1978	High	282½	274¼	252½	270¾	277½	297	293	287¾	276	314¼	335	326	335
	Low	263¼	245¼	238¾	241½	258	272½	267	272	259¼	261¼	296	291½	238¾
1979	High	341½	337	327¼	335¼	355½	356	356	340	355½	361	354½	382½	382½
	Low	316	308¼	297½	320	329¼	334½	328¾	323	328	335½	332	352½	297½
1980	High	514	486	475	481	500	469½	474¾	474	491	458½	429		
	Low	390	406½	411	430½	436	433	443	415¾	447	383	376½		
1981	High													
	Low													

Source: Chicago Board of Trade

Wheat and Flour—Price Relationships at Milling Centers (In Dollars)

Crop Year (June-May[5])	At Kansas City					At Minneapolis				
		Wholesale Price of					Wholesale Price of			
				Total Products					Total Products	
	Cost of Wheat to Produce 100 lb. Flour[1]	Bakery Flour Per 100 lb.[2]	By-Products Obtained 100 lb. Flour[3]	Actual	Over Cost of Wheat	Cost of Wheat to Produce 100 lb. Flour[1]	Bakery Flour Per 100 lb.[2]	By Products Obtained 100 lb. Flour[3]	Actual	Over Cost of Wheat
1967–8	5.36	5.46	.76	6.22	.86	5.76	5.97	.76	6.73	.97
1968–9	5.29	5.40	.72	6.12	.83	5.57	5.87	.71	6.58	1.01
1969–0	5.47	5.51	.74	6.25	.78	5.74	6.03	.73	6.76	1.02
1970–1	5.58	5.58	.86	6.44	.86	5.92	6.27	.85	7.12	1.20
1971–2	5.43	5.34	.74	6.08	.65	5.48	5.99	.71	6.70	1.22
1972–3	7.13	6.78	1.11	7.89	.76	6.85	7.12	1.07	8.19	1.34
1973–4[5]	10.58	10.36	1.60	11.96	1.38	10.48	10.67	1.56	12.23	1.75
1974–5	10.43	10.07	1.61	11.68	1.25	11.64	11.28	1.58	12.86	1.82
1975–6	9.43	9.23	1.56	10.79	1.36	10.04	10.39	1.51	11.90	1.86
1976–7	7.06	7.02	1.66	8.68	1.62	7.46	8.12	1.70	9.82	2.36
1977–8	6.56	6.76	1.26	8.02	1.46	6.73	7.49	1.20	8.69	1.96
1978–9	7.85	7.89	1.47	9.36	1.51	7.76	8.22	1.34	9.56	1.80
June–Sept. '78	7.29	7.49	1.27	8.76	1.47	7.27	8.03	1.16	9.19	1.92
Oct.–Dec. '78	7.83	7.77	1.67	9.44	1.61	7.78	8.15	1.48	9.63	1.85
Jan.–Mar. '79	7.98	7.84	1.61	9.45	1.47	7.74	8.05	1.44	9.49	1.75
Apr.–May '79	8.31	8.46	1.35	9.81	1.50	8.26	8.65	1.29	9.94	1.68
June–Sept. '79	9.87	9.91	1.70	11.61	1.74	9.88	10.22	1.61	11.83	1.95
Oct.–Dec. '79	10.50	10.39	1.85	12.24	1.74	9.99	10.57	1.63	12.20	2.21
Jan.–Mar. '80	9.79	10.02	1.77	11.79	2.00	9.46	10.20	1.45	11.65	2.19
Apr.–May '80										

[1] Cost of 2.28 bushels. [2] Quoted as 95% patent at K.C. & standard patent at Minn., bulk basis. [3] Assumes 50-50 millfeed distribution between bran & shorts or middlings, bulk basis. [4] Preliminary. [5] Data prior to 1973-4 are for July–June crop year. *Source: Agricultural Marketing Service, U.S.D.A.*

WHEAT AND FLOUR

World Wheat Flour Production In Thousands of Metric Tons

Year	Argentina	Australia[2]	Canada	Spain	India[3]	Mexico	Israel	Japan	W. Germany	Egypt	South Africa	United Kingdom	United States	Yugoslavia
1967	2,160	1,260	1,728	3,348	1,308	1,142	290	3,288	2,412	N.A.	626	3,708	11,124	1,980
1968	2,208	1,284	1,716	3,276	1,368	1,188	313	3,360	2,328	N.A.	658	3,684	11,532	2,016
1969	2,184	1,248	1,740	3,228	1,740	1,236	323	3,384	2,364	N.A.	671	3,744	11,520	2,076
1970	2,352	1,284	1,812	3,192	2,220	1,332	329	3,396	2,412	N.A.	728	3,756	11,508	2,172
1971	2,388	1,308	1,776	2,976	2,520	1,392	360	3,468	3,436	1,920	715	3,780	11,352	2,280
1972	2,424	1,200	1,788	3,060	2,832	1,488	372	3,588	2,316	2,172	756	3,696	11,364	2,268
1973	2,304	1,092	1,728	2,904	1,932	1,560	420	3,576	2,376	2,340	806	3,768	11,304	2,292
1974	2,388	1,140	1,692	2,808	1,752	1,608	396	3,732	2,364	2,592	917	3,756	10,980	2,388
1975	2,484	1,260	1,788	3,000	1,680	1,584	456	3,996	3,060	2,736	919	3,888	11,208	2,316
1976	2,532	1,236	1,932	2,952	1,788	1,714	444	4,008	3,252	2,880	950	3,948	11,772	2,424
1977	2,616	1,176	1,872	2,976	2,136	1,680	468	3,960	3,264	3,240	908	3,900	11,856	2,388
1978[1]	2,592	1,092	1,992	3,000	2,016	1,752	492	4,044	3,336	3,480	725	3,852	12,612	2,388
1979[4]	2,700	1,080	2,100	3,100	1,656	1,850	510	4,119	3,450	4,500	675	3,840	12,876	2,400
1980														

[1] Preliminary. [2] Twelve months ending June 30 of the year stated. [3] Represents 60 percent of the total production. [4] Estimate. *Source: United Nations*

Supply and Distribution of Wheat Flour in the United States In Thousands of Cwt.

Year	Production[2] (Commercial & Non-commercial)	Imports of Flour and Products[3]	Total Supply	Exports		Used in the Milling Industry[6]	Domestic Disappearance for Food			
								Civilian		
				Flour[4]	Products[5]		Military	USDA Donations	Total	Per Capita
1967	245,390	222	245,612	21,557	2,131	88	2,500	3,990	219,336	112
1968	254,310	233	254,543	28,620	2,476	88	3,000	4,096	220,359	112
1969	254,194	274	254,468	26,706	1,673	88	3,000	4,306	223,001	112
1970	253,094	325	253,419	26,408	1,661	88	3,000	4,421	222,262	110
1971	249,810	341	250,151	21,269	2,076	88	3,000	4,906	223,718	110
1972	250,441	477	250,918	21,080	2,373	88	2,500	4,404	224,877	109
1973	249,265	550	249,815	16,967	3,192	88	2,413	4,273	227,155	112
1974	242,084	665	242,749	15,059	3,890	88	2,235	2,626	221,477	110
1975	247,080	621	247,701	12,947	6,235	88	2,352	—	226,079	113
1976	259,483	604	260,087	16,658	4,521	88	2,330	—	236,490	118
1977[1]	259,272	603	259,875	22,675	6,092	88	2,310	—	228,710	114
1978[1]										115
1979[1]										112

[1] Preliminary. [2] Includes flour milled in bond from foreign wheat plus the estimated flour equivalent of farm wheat ground or exchanged for flour. [3] Imports of products are of macaroni products (flour equivalent). [4] Includes exports of milled-in-bond flour & exports for relief or charity. [5] Exports are of semolina durum flour & macaroni products (flour equivalent). [6] Primarily for production of breakfast food. *Source: Economic Research Service, U.S.D.A.*

United States Wheat Flour Production In Millions of Sacks (of 100 Pounds Each)

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1967–8	19.1	21.9	21.0	21.8	21.0	20.7	21.5	20.4	21.9	20.0	20.0	19.7	248.4
1968–9	20.4	21.9	21.5	23.5	22.1	21.3	20.3	19.0	20.6	20.3	21.2	20.8	252.8
1969–0	19.6	21.5	22.2	23.4	22.2	23.1	22.0	21.0	21.3	20.8	19.8	20.0	256.9
1970–1	20.0	21.2	22.2	23.4	20.7	20.8	20.9	19.8	21.0	19.7	20.2	21.0	250.9
1971–2	20.2	22.2	22.1	21.7	20.1	21.0	20.7	20.0	21.1	19.7	21.1	21.1	251.0
1972–3	19.8	21.3	21.3	22.5	21.1	20.8	21.3	20.0	21.1	19.3	20.6	19.8	248.9
1973–4	20.1	21.9	21.6	22.0	20.7	21.0	22.1	20.1	20.8	18.5	18.9	18.6	246.3
1974–5	18.7	20.3	20.8	22.8	20.9	19.7	19.5	17.7	19.1	20.6	20.4	19.6	240.1
1975–6	21.2	21.7	22.7	24.1	20.1	20.5	21.0	19.9	21.8	21.1	20.9	21.1	256.1
1976–7	21.8	24.3	23.2	22.7	21.0	20.8	21.3	21.4	24.3	20.6	20.9	20.5	262.8
1977–8[1]	19.4	23.0	22.0	22.1	23.8	23.4	21.8	21.7	24.3	22.6	24.1	23.1	271.3
1978–9[1]	22.3	25.1	22.4	24.8	23.7	21.9	22.8	21.5	23.5	22.3	24.6	22.5	277.4
1979–0[1]	23.5	26.3	23.3	26.1	24.8	22.7	24.6						
1980–1													

[1] Preliminary. *Source: Bureau of the Census*

Stocks of Wheat Flour Held by Mills in the United States In Thousands of Sacks (100 Pounds)

Year	Jan. 1	April 1	July 1	Oct. 1	Year	Jan. 1	April 1	July 1	Oct. 1
1967	4,180	4,226	4,224	4,689	1974	5,505	5,297	3,748	3,885
1968	4,372	4,348	4,262	4,517	1975	4,499	4,755	4,434	4,140
1969	4,638	4,489	4,324	4,391	1976	3,907	4,510	3,923	3,621
1970	4,595	4,237	4,227	4,438	1977[1]	4,334	4,248	4,167	3,537
1971	4,329	4,732	4,586	4,861	1978[1]	4,160	4,096	3,459	3,342
1972	4,362	4,542	4,379	4,886	1979[1]	3,214	3.477	3,895	3,813
1973	4,746	5,581	5,393	4,174	1980[1]	3,975			

[1] Preliminary. *Source: Department of Commerce*

United States Wheat Flour Exports In Thousands of 100 Pound Sacks

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
1969–0	2,249	919	1,534	2,752	2,052	1,499	2,232	1,726	1,860	2,238	1,837	2,523	23,601
1970–1	863	1,164	1,074	2,438	1,537	2,104	1,134	1,528	1,188	1,282	1,536	2,841	18,689
1971–2	1,627	1,374	1,178	982	908	1,060	1,318	1,472	1,169	757	2,300	2,494	16,639
1972–3	1,381	930	965	1,049	1,665	1,049	1,553	611	1,626	1,134	977	993	13,933
1973–4	1,352	1,596	1,607	483	612	912	914	1,015	904	832	957	858	12,042
1974–5	784	797	699	816	929	1,058	820	715	577	516	1,718	1,119	10,548
1975–6	1,084	999	753	735	588	555	423	379	525	1,149	1,789	2,184	11,163
1976–7	1,294	2,083	2,449	997	447	188	1,218	2,334	2,519	3,272	1,857	1,248	12,483
1977–8[1]	1,194	1,146	730	473	766	1,237	723	147	1,774	2,554	2,297	2,694	15,735
1978–9[1]	1,674	2,145	1,963	1,505	357	486	382	1,165	1,163	752	2,689	1,727	16,008
1979–0[1]	1,669	2,489	2,218	1,223	842	1,971	1,018	1,300					
1980–1													

[1] Preliminary. *Source: Department of Commerce*

Average Wholesale Price of Wheat Flour (Winter, Hard—95% Patent) at Kansas City —$ Per Cwt.

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1969–0	5.59	5.49	5.41	5.49	5.48	5.49	5.51	5.54	5.53	5.51	5.51	5.51	5.51
1970–1	5.53	5.53	5.71	5.71	5.65	5.59	5.59	5.61	5.50	5.49	5.50	5.59	5.58
1971–2	5.48	5.31	5.28	5.33	5.34	5.35	5.34	5.34	5.31	5.34	5.34	5.34	5.34
1972–3	5.463	6.163	6.263	6.413	6.500	7.500	7.375	6.813	6.875	7.163	7.038	7.738	6.78
1973–4	7.538	9.388	10.463	9.863	10.113	11.075	12.913	13.150	12.488	9.738	9.188	9.688	10.47
1974–5	10.725	10.150	10.325	11.363	11.775	11.200	10.438	9.938	9.125	8.975	8.550	8.088	10.050
1975–6	8.938	9.363	10.213	10.113	9.650	8.988	8.963	9.350	9.563	9.063	8.713	8.838	10.160
1976–7	—	8.075	7.613	7.375	6.938	6.838	6.763	6.813	6.525	6.200	5.838	5.575	6.778
1977–8	5.850	5.913	6.088	6.325	6.575	6.488	6.988	6.675	6.963	8.250	7.463	7.225	6.734
1978–9	7.600	7.575	7.550	7.600	7.925	7.788	7.550	7.775	8.175	8.125	8.800	9.075	7.962
1979–0	10.388	10.088	10.075	10.100	10.600	10.463	10.000	10.263	9.813				
1980–1													

Source: Bureau of Labor Statistics (0212-0102.01)

Average Wholesale Price of Wheat Flour (Spring[1]), at Minneapolis In Dollars per Hundred Pounds (Bulk)

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
1968–9	5.78	5.79	5.91	5.93	5.95	5.93	5.89	5.84	5.86	5.84	5.88	5.89	5.87
1969–0	6.01	6.03	5.91	5.95	5.99	6.00	6.00	6.06	6.09	6.10	6.08	6.11	6.03
1970–1	6.13	6.13	6.28	6.41	6.41	6.36	6.35	6.31	6.25	6.24	6.23	6.20	6.28
1971–2	6.11	6.06	5.98	6.00	6.01	6.00	6.00	5.99	5.91	5.91	5.93	5.95	5.99
1972–3	6.025	6.525	6.888	6.850	6.938	7.625	7.613	7.138	7.263	7.325	7.313	7.875	7.11
1973–4	7.738	10.280	10.600	9.913	10.225	11.525	12.975	13.313	12.700	10.188	9.838	10.963	10.85
1974–5	12.013	11.513	11.425	12.600	12.938	12.175	11.488	11.025	10.388	10.363	9.863	9.550	11.28
1975–6	10.213	10.513	11.238	11.163	10.675	10.150	10.150	10.213	10.713	10.250	10.075	10.350	10.48
1976–7	10.288	9.438	8.500	8.375	7.913	7.838	7.750	7.863	7.725	7.125	6.925	6.500	8.015
1977–8	6.588	6.688	7.025	7.188	7.338	7.200	7.588	7.325	7.650	8.638	8.388	8.100	7.476
1978–9	8.250	7.938	7.825	7.900	8.400	8.138	7.813	8.038	8.313	8.300	9.013	9.288	8.268
1979–0	10.638	10.513	10.463	10.563	10.713	10.438	10.088	10.413	10.113				

[1] Standard patent. *Source: Bureau of Labor Statistics* (0212–0103)

Wool

U.S. shorn wool production in 1979 totaled 103 million pounds, grease basis, up 1 percent from 1978. Pulled wool production in 1979 dropped to 260 thousand pounds, down over 50 percent from 1978 and off nearly 85 percent from 1977. While the average fleece weight of shorn wool declined slightly to 8.02 pounds, this was offset by an increase of 2 percent in sheep and lambs shorn which accounted for 1979's increased production.

The number of sheep and lambs on U.S. farms reached 12.5 million on January 1, 1980, up 2 percent from the year before and the first yearly increase since 1960. Wool producers are tending to build their herds, encouraged by higher slaughter lamb and shorn wool prices.

Domestic demand for raw wool was quite strong in the last half of 1979, causing inventories to dwindle. Part of this demand was made up of substantial apparel orders by the government. Wool has been in great demand by woolen system mills for end products such as women's coating, sweaters, blankets, etc. Higher heating costs in winter continue to stimulate sales of warmer clothing. Higher foreign wool prices in 1979 reflected very strong demand by foreign textile mills and have minimized use of foreign wool by domestic mills. Wool should experience less price competition from manmade fibers as the latter's prices reflect sharply higher petroleum costs.

U.S. mill consumption in 1979 was estimated at 111 million pounds, scoured basis, down 4 million pounds from 1978. Apparel wool use was estimated at 101 million pounds, off 1 million pounds from 1978 but 6.5 percent above the 1974–1978 average. Carpet wool use for 1979 was estimated at 10 million pounds, off 2 million pounds from 1978's 12 million pounds. Wool consumed in 1979 on the worsted system, which produces the higher quality yarn used in the better knit and woven suitings, was estimated to be off nearly 50 percent from 1978. Wool consumed in 1979 on the woolen system was estimated at 53 million pounds, up 0.5 percent from 1978 and 18 percent more than the 1974–1978 average.

The World Wool Situation

The USDA estimates 1979/80 world wool production at 3.32 billion pounds, clean, 1.3 percent above the previous year. Increased production is seen as a response to the improved longer-term outlook for the sheep industry and better weather this season. Reports from major wool producing countries indicate a gradual rebuilding of flocks with the exception of South Africa, due to an extended drought.

World consumption of wool during the first nine months of 1979 was up 3.5 percent over the same period in 1978. Available world supplies of raw wool have declined every year since 1975/76 and the 1979/80 world supply was estimated at 3,520 million pounds, off from the 1978/79 total of 3,593 million pounds. Carryin for the 1979/80 season totaled 200 million pounds. The relatively tight supply situation may be seen in the decline of the Australian Wool Corporation's (AWC) stockpile from 77 million pounds on July 1, 1979 to an estimated 35–40 million pounds in late January 1980. Foreign wool prices rose throughout 1979 until October and were near the October 1979 highs in January 1980.

U.S. Government Price Support

The 1980 support price for shorn wool was set by the USDA's Agricultural Stabilization and Conservation Service (ASCS) at $1.23 per pound. The 1980 support price is set at 72.4 percent of parity and is up 8 cents from the 1979 support price. Pulled wool will continue to be supported at a level comparable to the support price for shorn wool through payments on unshorn lambs.

As in past years, shorn wool payments will be based on a percentage of each producer's returns from sales. The percentage will be that required to raise the national average price received by all producers for shorn wool in 1980 up to the support price of $1.23 a pound.

Based on the 1979 support price of $1.15 a pound and the 1979 average U.S. farm price of 86 cents a pound, the estimated incentive payment rate on 1979 marketings will be about 34 percent.

Estimated World "Supply" Stocks of Raw Wool (Clean Basis) In Millions of Pounds

At Beginning of Season[1]	Australia (Carryover)	Australian Wool Corp.	New Zealand		South African		Argentina	Uruguay	British Wool Mkt. Board	Total Supply Stocks	Production During Season	Total Available Supplies
			(Carryover)	Wool Board	(Carryover)	Wool Board						
1973–4	22.0	.4	22.0	—	2.2	—	30.9	4.4	4.4	85.9	3,157.0	3,242.9
1974–5	50.7	33.1	19.8	4.4	8.4	4.4	88.2	19.8	4.4	233.6	3,331.2	3,564.8
1975–6	33.1	302.0	13.2	52.9	2.2	28.7	116.8	4.4	4.4	557.7	3,330.0	3,887.7
1976–7	28.7	255.7	13.2	11.0	2.2	15.4	114.6	—	4.4	445.3	3,187.9	3,633.2
1977–8[2]	24.3	209.4	8.8	24.3	2.2	8.8	92.6	4.4	4.4	379.2	3,185.6	3,564.8
1978–9												

[1] At July 1 for all except Argentina & Uruguay which are Oct. 1. [2] Preliminary.

Source: U.S. Dept. of Agriculture (compiled from reports of the Commonwealth Secretariat.)

Estimated World Production of Raw Wool In Millions of Pounds

Crop Year	Argentina	Australia	New Zealand	South Africa	United Kingdom	United States	Uruguay	Other	Total Free World	Soviet Bloc	World Total	Of Which			
												Merino	Crossbred	Total Apparel	Other
1973–4	397	1,545	628	231	108	159	132	931	4,131	1,343	5,474	2,059	2,094	4,154	1,320
1974–5	406	1,750	648	236	110	143	137	931	4,361	1,413	5,774	2,233	2,191	4,425	1,349
1975–6	414	1,662	688	238	108	130	137	959	4,336	1,431	5,767	2,171	2,227	4,398	1,369
1976–7	388	1,550	668	227	106	117	139	967	4,162	1,367	5,529	2,052	2,121	4,173	1,356
1977–8[1]	386	1,499	688	231	101	112	128	967	4,112	1,415	5,527	2,024	2,138	4,162	1,365
1978–9															

[1] Preliminary. *Source: U.S. Dept. Agriculture (compiled from reports of the Commonwealth Secretariat.)*

World Production of Wool[3] In Thousands of Metric Tons[1] (Greasy Basis)

Year	Brazil	Argentina	Australia	China	France	Morocco	India	N. Zealand	Spain	Turkey	South Africa	Un. Kingdom	United States	Uruguay	U.S.S.R.	World[2] Total
1967	69.3	450.7	1,770	174.8	48.3	28.7	81.6	728.3	79.0	101.4	321.4	127.0	227.0	178.6	869.7	6,040
1968	88.9	436.8	1,948	181.5	45.1	33.1	81.6	731.7	76.1	104.7	334.6	119.0	212.4	176.4	915.1	6,295
1969	82.5	443.3	2,036	185.1	44.9	37.5	77.2	723.1	73.7	105.8	340.6	119.0	194.7	165.3	859.1	6,261
1970[4]	40.6	199.8	885.4	86.4	20.3	15.5	36.0	333.9	33.8	47.5	126.8	47.2	85.0	80.0	418.9	2,663
1971	34.4	188.8	880.4	88.6	21.0	13.5	37.0	322.3	32.1	47.5	121.2	44.5	81.9	62.0	428.8	2,606
1972	37.1	177.0	735.2	90.3	21.2	20.0	30.8	308.8	31.7	50.3	114.7	46.7	79.6	61.0	420.0	2,413
1973	36.5	179.2	700.9		21.4	23.0	30.1	284.8	31.8	47.3	113.3	49.4	72.0	53.0	433.0	2,355
1974	34.4	183.4	793.5		21.7	19.0	30.5	294.1	34.0	52.4	114.6	49.9	64.7	55.0	461.0	2,495
1975[2]	31.3	190.2	757.4		21.9	20.0	31.0	311.8	29.0	53.0	114.3	50.3	58.6	60.0	463.0	2,481
1976[1]	30.3	176.3	702.7	61.0	22.0	21.0	32.0	302.5	28.6	53.9	110.5	49.9	53.8	60.4	432.0	2,457
1977[1]	26.9	172.0	677.4	61.0	22.4	20.0	33.1	310.8	28.0	54.1	113.4	48.0	49.9	62.2	455.0	2,465
1978[1]	30.0	170.8	695.4	61.0	23.3	21.0	34.2	316.5	27.5	54.5	110.9	50.1	46.4	62.7	458.0	2,497
1979																

[1] Estimated. [2] Preliminary. [3] Includes shorn, pulled, & wool exported on skins. [4] Data prior to 1970 are in MILLIONS OF POUNDS. *Source: Foreign Agricultural Service, U.S.D.A.*

World Consumption of Wool In Millions of Pounds (Clean Basis)

Year	Argentina	Australia	Belgium	Canada	France	W. Germany	Italy	Japan	Netherlands	New Zealand	South Africa	United Kingdom	United States[3]	Uruguay	Soviet Bloc	World Total
1966	46	72	96	17	263	151	242	367	22	16	25	388	370	48		3,405
1967	47	76	80	16	217	122	218	354	20	16	28	360	313	48		3,249
1968	48	73	88	17	239	149	211	371	18	15	28	391	330	50		3,453
1969	55	77	93	14	268	166	236	395	19	19	31	385	313	46		3,325
1970	60	81	89	11	275	150	204	403	18	24	27	337	240	48		3,308
1971	74	77	67	10	318	163	195	402	19	28	26	311	191	45		3,263
1972	80	75	68		322	170	227	400	19			336	219			3,480
1973	67	62	51		259	119	202	411	14			301	151		1,037	3,180
1974	71	47	45		231	85	189	258	12			248	93		1,102	2,861
1975	70	48	54		236	120	196	294	12			244	110		1,099	3,032
1976[1]	71	61	70		276	145	262	346	14			264	122		1,070	3,293
1977[2]	81	57	68		259	134	251	291				250	108		1,116	3,176
1978													116			

[1] Preliminary. [2] Estimate. [3] Consumption on woolen & worsted systems only.
Sources: Bureau of the Census; Commonwealth Economic Committee

WOOL

Wool Goods[1] Production in the United States In Millions of Linear Yards

Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year	Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
1967	61.7	66.0	53.2	57.8	238.6	1974	23.6	22.7	17.6	17.1	81.0
1968	62.0	68.8	56.7	55.7	243.3	1975	17.3	19.4	20.4	21.7	78.9
1969	65.6	63.0	48.1	45.7	222.5	1976	26.00	26.4	22.9	21.9	97.3
1970	58.1	54.2	35.4	30.9	178.6	1977[2]	26.2	26.7	23.3	25.4	101.6
1971	37.0	32.6	22.7	21.1	113.3	1978[2]	28.2	31.2	27.3	30.0	116.4
1972	25.3	27.7	22.2	26.6	101.8	1979[2]	33.5	31.3	24.6		
1973	28.4	29.6	23.7	19.3	101.1	1980					

[1] Woolen and worsted woven goods, except woven felts. [2] Preliminary. *Source: Bureau of Census*

United States Imports[1] of Unmanufactured Wool (Clean Yield) In Millions of Pounds

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	16.5	13.1	17.6	13.9	13.9	15.8	13.9	15.0	17.7	13.9	16.9	19.0	187.3
1968	24.0	23.5	21.7	22.8	21.2	19.0	25.3	19.2	20.6	17.7	16.4	18.1	249.3
1969	10.9	9.2	19.9	22.0	19.2	14.7	15.9	23.7	12.3	7.5	17.5	16.4	189.2
1970	12.9	15.7	18.0	12.3	11.3	17.0	13.7	14.7	11.2	8.4	6.9	10.9	153.1
1971	12.0	9.4	11.2	11.1	11.5	10.4	13.8	17.0	13.3	5.3	1.0	10.7	126.6
1972	7.1	10.5	7.2	11.8	8.6	6.3	9.9	10.7	6.2	5.8	6.7	5.7	96.6
1973	7.7	7.2	5.7	5.6	6.4	6.8	5.4	4.7	2.5	2.8	2.0	1.9	57.9
1974	1.6	3.0	2.5	2.5	3.1	3.2	2.4	2.9	1.8	1.7	1.0	1.3	26.9
1975	2.2	1.4	1.7	2.1	2.2	2.9	2.4	2.4	2.9	4.9	4.0	4.4	33.6
1976	5.8	5.3	5.6	5.9	4.7	3.9	4.8	5.7	4.6	4.0	3.3	4.4	58.0
1977	5.2	5.0	4.7	5.1	7.4	7.4	4.0	4.7	2.4	2.2	1.8	3.0	53.0
1978	3.7	3.2	4.1	4.9	4.0	3.8	4.7	5.4	3.4	4.0	4.8	4.0	50.4
1979	4.5	3.4	4.2	3.9	4.3	3.1	4.1	3.3	2.6	2.0	3.5	3.5	42.3
1980	6.1												

[1] Data are imports for consumption. *Source: Department of Commerce*

Price Received by Farmers for Shorn[2] Wool in the U.S. In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average[1]
1967	40.6	40.4	40.6	39.4	40.1	42.1	41.4	40.5	38.2	38.9	38.2	35.6	39.8
1968	36.5	34.8	38.0	41.6	41.7	41.9	40.7	39.4	39.9	37.8	39.2	38.0	40.5
1969	37.4	38.2	40.4	42.8	43.5	42.8	41.4	39.9	39.2	39.6	38.6	38.6	41.8
1970	35.6	35.7	36.5	37.5	36.6	37.5	37.1	34.2	31.6	32.5	31.7	28.2	35.5
1971	25.3	24.6	23.3	22.9	21.2	21.3	18.7	17.9	18.9	17.0	17.9	16.8	19.4
1972	17.7	19.6	24.2	29.1	34.5	39.4	39.2	38.4	35.8	50.9	52.5	49.3	35.0
1973	78.0	77.3	90.4	86.1	82.3	84.5	83.0	78.8	83.7	74.3	70.1	70.6	82.7
1974	78.4	70.0	66.1	62.5	60.6	59.7	61.1	52.5	48.7	49.6	45.8	43.5	59.1
1975	40.9	33.7	36.7	43.6	48.0	46.7	48.0	46.2	44.8	52.8	47.4	43.3	44.7
1976	50.7	58.4	59.5	64.4	65.1	68.1	68.3	67.0	68.2	70.8	71.2	69.5	65.7
1977	72.9	72.5	72.4	72.5	71.9	73.7	72.3	70.4	66.4	71.3	70.6	69.3	72.0
1978	72.6	68.9	71.2	73.7	73.9	76.2	74.8	74.6	72.7	77.1	81.2	73.6	74.5
1979[3]	77.7	77.0	79.5	86.9	88.3	87.1	83.7	83.1	80.2	89.6	90.2	82.1	86.3
1980[3]	83.6	82.3	91.6	92.9									
1981													

[1] Weighted average. [2] Grease basis. [3] Preliminary. *Source: Crop Reporting Board, U.S.D.A.*

Salient Statistics of Wool in the United States

						Pulled Wool Production			Apparel Wool (Clean Content)					Mill Consumption	
Year	Sheep & Lambs Shorn[2] Ths.	Weight per Fleece Lbs.	Shorn Wool Production Ths. Lbs.	Price per Lb.	Value of Production Mil. $	Avg. Weight per Skin Lbs.	Total	Total Wool Production	Domestic Prod.	Exports Domestic Wool	Imports for Consumption[4]	Total New Supply[3]	Carpet Wool Imports for Cons.	Apparel	Carpet
							Thousand Pounds								
1967	22,056	8.57	188,984	39.8	75.2	3.44	22,400	211,384	106,475	102	109,071	215,444	78,205	228,659	83,851
1968	20,759	8.55	177,396	40.5	71.8	3.43	20,500	197,896	99,563	543	129,717	228,737	119,599	238,290	91,407
1969	19,584	8.46	165,749	41.8	69.5	3.46	17,100	182,849	91,528	196	93,523	184,855	95,664	219,035	83,758
1970	19,163	8.43	161,587	35.4	57.2	3.40	15,200	176,787	88,158	200	79,810	167,768	73,325	163,652	76,609
1971	19,036	8.41	160,156	19.6	31.4	3.46	12,060	172,156	85,143	6,318	42,682	121,507	83,893	116,310	75,151
1972	18,770	8.44	158,506	35.0	55.5	3.40	9,700	168,206	82,875	11,224	24,790	96,441	71,849	142,233	76,368
1973	17,425	8.25	143,738	82.7	118.8	3.49	8,000	151,738	75,111	3,726	19,587	90,972	40,524	109,872	41,394
1974	15,956	8.23	131,382	59.2	77.8	3.31	5,700	137,082	67,578	4,271	11,800	75,107	15,148	74,856	18,595
1975	14,403	8.30	119,535	44.7	53.5	3.35	5,300	124,835	60,882	7,674	16,572	69,780	17,021	94,117	15,908
1976	13,669	8.11	110,817	65.7	73.1	3.34	4,000	114,817	55,776	1,130	38,387	93,033	19,076	106,629	15,117
1977	13,270	8.11	107,159	72.0	77.1	3.30	1,700	108,859	54,819	385	34,175	88,609	18,780	95,485	12,526
1978[1]	12,609	8.08	101,874	74.5	75.9	3.15	550	102,424	51,039	425	27,000	77,614	23,404	102,246	13,009
1979[1]	12,826	8.02	102,803	86.3	88.7		260	103,063						101,206	9,846
1980															

[1] Preliminary. [2] Includes sheep shorn at commercial feeding yards. [3] Production minus exports plus imports; stocks not taken into consideration. [4] Apparel wool includes all dutiable wool; carpet wool includes all duty-free wool.
Source: Economics Service, U.S.D.A.; Dept. of Commerce

Consumption of Apparel Wool in the United States (Clean Basis) In Millions of Pounds (Clean Basis)

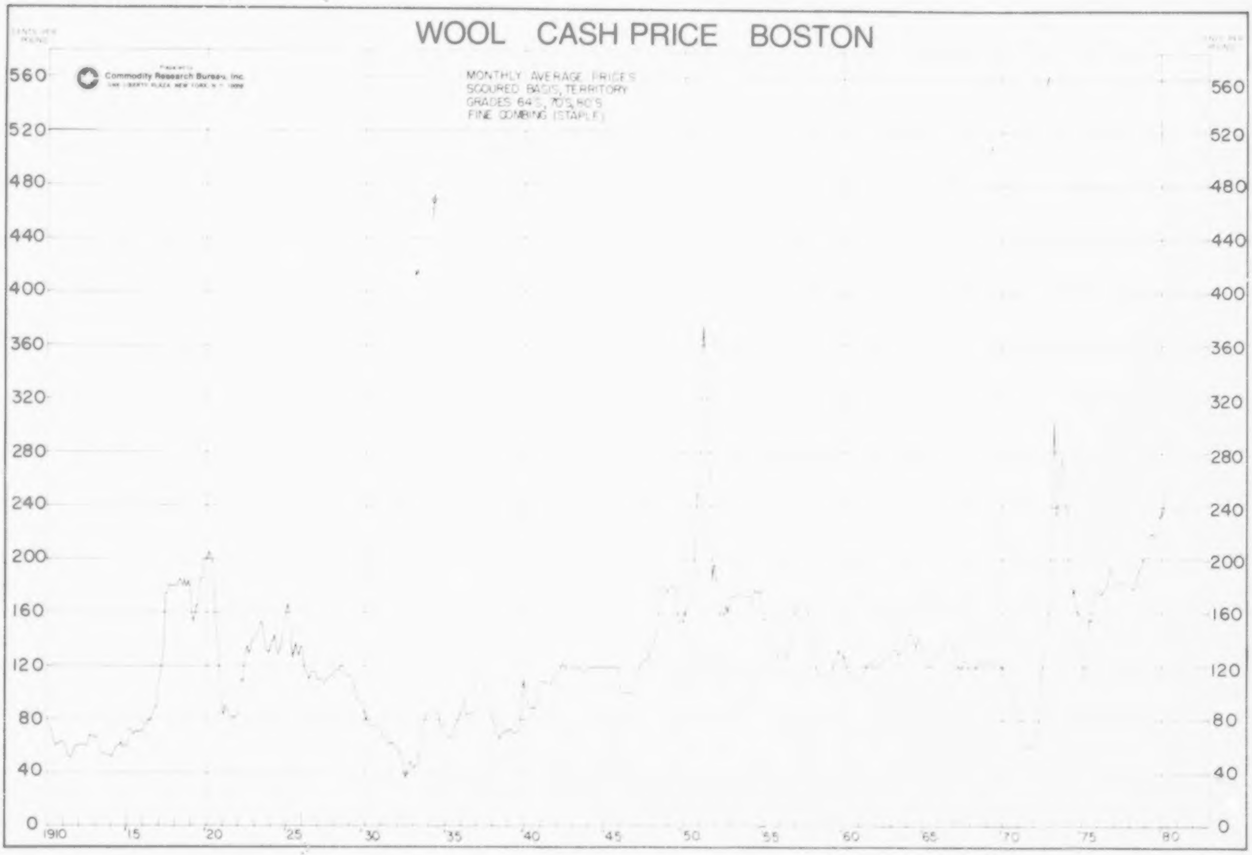
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1967	18.5	18.4	22.1	18.6	19.0	23.3	15.4	18.1	20.8	16.7	17.5	20.2	228.7
1968	22.7	19.7	19.4	24.9	19.3	19.8	19.9	19.0	17.8	22.5	17.0	16.3	238.3
1969	22.9	17.1	18.2	23.5	18.9	18.2	18.8	16.9	14.2	19.5	14.7	16.1	219.0
1970	16.0	15.6	18.8	15.6	14.1	16.3	9.8	10.8	13.3	10.7	10.8	12.0	163.7
1971	10.2	9.5	13.0	9.4	9.7	12.1	7.3	8.0	10.7	8.8	7.7	9.8	116.2
1972	9.5	10.4	14.6	11.8	12.6	15.5	9.0	12.6	13.6	10.9	12.5	9.2	142.2
1973	12.6	9.9	9.6	10.9	9.8	9.4	8.5	8.4	7.7	10.0	6.8	6.2	109.9
1974	7.8	6.3	6.4	7.2	6.6	6.5	5.5	6.1	5.6	6.9	5.5	4.6	74.9
1975[1]	6.5	5.8	6.5	8.4	7.7	7.6	8.1	8.1	8.2	10.3	7.8	9.3	94.1
1976[1]	8.9	8.7	12.0	9.1	8.8	11.1	7.3	7.6	9.3	7.9	6.9	9.0	106.7
1977[1]	8.2	8.3	10.0	7.9	7.7	9.5	5.2	7.4	8.6	7.7	7.0	7.9	95.5
1978[1]	7.7	8.2	10.5	8.8	9.2	10.3	7.0	8.4	9.4	8.1	8.1	7.8	102.2
1979[1]	10.1	8.2	8.9	10.0	8.5	7.8	7.5	7.6	6.7	9.9	8.0	8.1	101.4
1980[1]	11.3												

[1] Preliminary. *Source: Bureau of the Census*

Average Wool Prices[1]—Australian—64's, Type 62, Duty Paid—U.S. Mills In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1975			209.0	211.2	219.6	209.0	206.8	204.3	198.5	197.3	206.0	205.0	205.8
1976	205.5	206.0	—	—	212.4	213.5	213.5	216.5	224.2	232.5	224.0	227.3	217.5
1977	229.0	227.3	227.6	228.3	228.0	226.3	227.0	224.0	227.0	227.0	230.5	226.5	227.4
1978	228	230	231	232	233	236	236	236	236	236	237	237	234
1979	237	249	265	273	278	282	283	283	293	309	290	280	277
1980	292	310	306										
1981													

[1] Raw, clean basis. *Source: U.S. Dept. of Agriculture*



Average Wool Prices—Domestic[1]—Graded Territory, 64's, Staple 2¾" & Up—U.S. Mills —¢ Lb.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov	Dec.	Average
1967	128.8	122.5	121.3	117.5	117.5	123.5	124.5	123.7	122.5	122.5	117.7	116.5	121.5
1968	116.5	116.5	117.8	119.0	120.8	122.0	122.0	122.0	121.0	121.5	124.5	124.5	120.7
1969	124.5	123.9	122.0	122.0	122.0	122.0	122.0	122.0	122.0	121.8	121.0	119.5	122.1
1970	118.5	118.5	111.0	108.1	107.0	105.5	102.5	102.5	95.3	92.5	92.5	85.0	102.4
1971	82.5	82.5	75.7	70.8	63.0	59.7	59.0	59.5	61.0	61.0	60.5	61.5	66.4
1972	62.5	64.0	70.8	94.4	113.0	120.0	127.0	127.5	135.0	145.5	163.5	165.0	115.7
1973	188.0	232.5	302.5	233.8	233.5	257.5	260.0	275.0	275.0	263.0	241.9	237.5	250.0
1974	236.0	222.5	197.5	185.0	174.0	178.8	166.5	161.2	162.5	156.5	141.2	130.8	176.0
1975	116.2	112.5	113.8	134.0	150.6	155.6	153.8	171.2	172.5	172.5	172.5	177.5	150.2
1976	177.5	177.5	173.5	176.2	177.5	177.5	182.5	182.5	187.5	192.5	192.5	187.5	182.1
1977	187.5	187.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.0	183.3
1978	182	178	178	181	184	192	192	192	195	197	202	202	190
1979	202	202	206	220	220	218	218	218	220	230	233	233	218
1980	238	253	256										

[1] Raw, shorn, clean basis. *Source: U.S. Dept. of Agriculture*

Zinc

A mine closure and several strikes significantly cut U.S. mine production in 1979, but smelter production was up substantially over the 1978 level, according to the Bureau of Mines, U.S. Department of the Interior. Mine production was 260,000 tonnes, down 14 percent from that of 1978 and the lowest since 1932.

Reported consumption of slab zinc was about 1.0 million tons, down 3 percent from that of 1978. Consumption for brass and bronze was up 7 percent and galvanizing was up 3 percent, but diecasting declined 4 percent.

Consumption for rolled zinc, zinc oxide, and miscellaneous uses declined from that of 1978. Of the total consumption, which included about 90,000 tons of concentrates used directly, galvanizing accounted for 40 percent of the total; zinc-base alloy, 29 percent; brass and bronze, 14 percent; zinc oxide, 12 percent; and other 5 percent.

Producer and consumer stocks were 137,253 tons on January 1, and rose to 140,000 tons by yearend. Producer stocks rose but consumer stocks fell.

The Government stockpile goal for zinc remained at 1,191,134 tons, of which 338,427 tons was on hand.

The price of Prime Western grade zinc reached 41.5 cents per pound in June, 1979. As demand weakened in the last half of the year, the price fell to 37.5 cents by yearend. The average for the year was 37.4 cents. On the New York Commodity Exchange, prices reached about 38 cents in June, but then declined to about 33.5 cents in December. On the London Metal Exchange, prices rose in the first quarter to 36 cents, but fell to about 33 cents in early December for an average price of 33.2 cents in 1979.

In 1979, imports of zinc in ore and concentrates, at 100,000 tons, were about the same as those of 1978. Major sources were Peru, Bolivia, Mexico, and Honduras. Imports for consumption of zinc metal were 510,000 tons, 18 percent below those of 1978. Canada supplied 51 percent, Spain, 11 percent, and Mexico, 7 percent. Countries shipping less zinc to the United States in 1979 than in 1978 included Finland, the Federal Republic of Germany, the Netherlands, Poland, the Republic of South Africa, and Zaire, whereas those shipping a greater quantity included Algeria, Japan, and the United Kingdom. The European Economic Community provided 12 percent of the U.S. imports of zinc metal compared with 17 percent in 1978.

Salient Statistics of Zinc in the United States In Thousands of Short Tons

	Production of Slab Zinc						Dec. 31, Stocks at			Consumption					
	Primary											Base Scrap[2]			
Year	Domestic	Foreign	Total	Value Mil. $[6]	Redistilled Secondary	Total Production	Producer Plants	Consumer Plants	Gov't Stockpile	Slab Zinc	Ores[2]	Zinc[3]	Copper	Aluminum[4]	Total
1967	438.6	500.3	938.8	262	73.5	1,012	81.9	102.5	184.4	1,250.7	114.3	91.7	142.8	6.4	1,606
1968	499.5	521.4	1,020.9	143	79.9	1,101	65.4	101.8	167.2	1,350.7	124.1	101.3	162.9	6.4	1,745
1969	458.8	581.8	1,040.6	162	70.6	1,111	65.8	102.0	167.8	1,385.4	126.7	100.6	194.4	7.1	1,814
1970	404.0	473.9	877.8	164	77.2	955	124.2	92.7	216.9	1,187.0	124.8	93.5	160.0	6.4	1,572
1971	403.8	362.7	766.4	162	80.9	847	48.6	91.5	140.1	1,254.1	119.3	104.0	166.5	6.9	1,651
1972	401.0	232.2	633.2	170	73.7	707	30.1	125.0	949.6	1,418.3	118.3	93.0	191.3	7.9	1,844
1973	399.1	184.4	583.5	198	83.2	667	25.9	114.3	677.0	1,503.9	129.7	90.5	192.0	7.6	1,932
1974	347.0	208.2	555.2	359	78.5	634	39.7	211.2	391.6	1,287.7	127.1	87.7	162.5	8.0	1,673
1975	308.0	130.1	438.1	366	57.9	496	74.7	107.3	385.7	925.3	82.7	196.0	117.2	.6	1,232
1976	381.9	117.0	498.9	359	68.6	567	97.0	121.2	385.2	1,134.1	101.2	152.6	153.3	.6	1,537
1977[1]	355.2	95.0	450.2	309	50.6	501	92.4	80.9	383.4	1,101.8	95.3	153.9	153.9	.7	1,508
1978[5]			441		40	481	61.8	94.6		1,127.4	99.0	80.7	156.0	.6	1,464
1979[5]			460		40	500	65	95		1,050.0	90.0	75.0	160.0	.6	1,400
1980															

[1] Preliminary. [2] Recoverable zinc content. [3] Excludes redistilled slab & zinc produced by remelting. [4] Aluminum & magnesium-base scrap. [5] Estimate. [6] Domestic ore (recoverable content). *Source: Bureau of Mines*

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ZINC

World Smelter Production of Zinc In Thousands of Short Tons

Year	Australia	Belgium	Canada	France	W. Germany	Italy	Japan	Mexico	Norway	Peru	Poland	Spain	U.S.S.R.	Un. Kingdom[3]	United States	World Total
1967	217.8	250.9	405.1	204.7	113.2	98.1	569.0	78.1	60.4	68.0	216.0		595.0	115.0	938.8	4,548
1968	226.0	276.8	426.9	228.6	159.1	123.8	667.5	88.2	66.3	72.5	223.2		634.0	157.5	1,021	5,101
1969	267.2	283.5	466.4	279.5	162.2	143.7	785.1	88.5	64.8	68.6	228.7		672.0	166.4	1,041	5,482
1970	287.3	265.9	460.7	246.6	114.3	156.6	745.4	88.9	68.0	75.7	230.4		672.0	161.6	877.8	5,321
1971	285.2	234.5	410.0	241.0	121.7	153.1	789.7	85.8	69.0	63.0	242.5	94.4	717.0	128.4	766.4	5,229
1972	325.2	286.3	524.9	288.3	235.5	171.8	887.7	92.4	80.9	74.0	251.3	109.9	717.0	81.4	633.2	5,656
1973	330.1	309.8	587.0	285.9	283.3	200.6	929.2	78.7	89.2	76.8	259.0	118.0	740.0	92.4	583.5	5,877
1974	305.2	318.3	469.9	305.0	441.0	216.5	936.9	150.9	79.8	78.7	257.0	143.3	750.0	93.0	555.2	6,183
1975	213.1	235.0	470.6	164.9	302.4	198.1	769.7	169.7	67.1	69.7	267.9	147.0	760.0	58.9	438.1	5,526
1976	267.5	254.4	520.6	195.1	312.3	208.8	818.0	188.9	70.9	71.3	261.2	174.6	790.0	45.8	498.9	5,908
1977[1]	274.3	265.2	545.5	199.5	356.0	194.7	858.0	188.5	76.5	73.8	251.5	172.7	810.0	89.8	450.1	6,041
1978[2]	430		465					160		80					420	5,700
1979[2]	440		500					150		85					460	5,675
1980																

[1] Preliminary. [2] Estimated. [3] Some secondary metal included. *Source: Bureau of Mines*

U.S. Mine Production of Recoverable Zinc In Thousands of Short Tons

Year	Arizona	Colorado	Idaho	Illinois	Missouri	Montana	Pennsylvania	New Mexico	New York	New Jersey	Tennessee	Utah	Virginia	Washington	Wisconsin	Total U.S.
1967	14.3	52.4	56.5	20.4	7.4	3.3	35.1	21.4	70.6	26.0	113.1	34.3	18.8	21.5	29.0	549.4
1968	5.4	50.3	57.2	18.2	12.3	3.8	30.4	18.7	66.2	25.7	124.0	33.2	19.3	13.9	25.7	529.4
1969	9.0	53.7	55.9	13.8	41.1	6.1	33.0	24.3	58.7	25.1	124.5	34.9	18.7	9.7	22.9	553.1
1970	9.6	56.7	41.1	16.8	50.7	1.5	29.6	16.6	58.6	28.7	118.3	34.7	18.1	12.0	20.6	534.1
1971	7.8	61.2	45.1	12.7	48.2	.4	27.4	14.0	63.4	30.0	119.3	25.7	16.8	5.8	10.6	502.5
1972	10.1	63.8	38.6	11.4	61.9	—	18.3	12.7	60.7	38.1	101.7	21.9	16.8	6.5	6.9	478.3
1973	8.4	58.3	46.1	5.3	82.4	.1	18.9	12.3	81.4	38.0	64.2	16.8	16.7	6.4	8.7	478.9
1974	9.7	49.5	39.5	4.1	92.0	.1	20.3	13.8	93.1	32.8	85.7	12.6	17.2	6.9	8.7	499.9
1975	8.7	48.5	40.9	N.A.	74.9	.1	21.1	11.0	76.6	31.1	83.3	19.6	15.2	N.A.	N.A.	469.4
1976	9.5	50.6	46.6	N.A.	83.5	.1	22.3	N.A.	73.7	33.8	82.5	22.5	11.2	N.A.	N.A.	484.5
1977	4.4	40.3	31.0	N.A.	81.7	.1	22.8	N.A.	70.8	33.5	90.4	17.8	13.3	5.6	N.A.	[illegible]9.6
1978[1]	.7	24.5	35.7		65.1	.1	21.0		70.0	31.9	96.9	3.9	12.1			334.0
1979[2]	1.0	11.1	32.9		66.9	.2	21.9			34.8	92.8		11.6			290.6
1980																

[1] Preliminary. [2] Estimated. *Source: Bureau of Mines*

Consumption of Slab Zinc in the United States, by Industries and Grades In Thousands of Short Tons

		By Industries						By Grades						
Year	Total	Galvanizers	Brass & Bronze	Zinc-Base Alloy[2]	Zinc Rolling Mills	Oxide Plants	Other Uses	Special High Grade	High Grade	Intermediate	Brass Special	Select	Prime Western	Remelt
1967	1,250.7	472.5	131.5	535.1	45.4	29.8	36.3	643.5	101.2	8.0	123.7	— 345.6 —		5.7
1968	1,350.7	498.8	161.9	562.9	48.9	34.9	43.2	683.3	122.5	8.0	135.6	—(379.0)—		5.3
1969	1,385.4	493.4	179.5	576.4	48.7	41.4	46.0	691.0	137.8	7.6	128.2	— 398.1 —		5.8
1970	1,187.0	474.2	127.7	463.6	41.1	43.8	36.4	647.6	126.0	10.0	92.5	— 309.9 —		.9
1971	1,254.1	474.8	150.5	516.1	38.9	40.0	33.8	683.7	133.1	10.0	102.5	— 328.0 —		1.8
1972	1,418.3	518.2	192.1	579.8	45.2	52.0	31.0	684.7	147.1	19.0	129.9	— 397.2 —		.7
1973	1,503.9	563.8	197.7	598.7	40.8	61.7	29.3	739.4	167.5	37.4	132.1	— 426.6 —		.9
1974	1,287.7	523.3	181.6	440.3	39.4	65.4	37.8	572.9	153.1	26.3	122.1	— 412.1 —		1.2
1975	925.3	376.9	115.3	334.2	27.3	39.0	33.3	438.2	83.4	14.2	79.2	— 309.6 —		.8
1976	1,134.1	433.1	166.2	427.0	29.9	39.0	38.9	551.3	111.4	23.2	104.5	— 342.5 —		1.3
1977[3]	1,101.8	437.0	141.4	404.7	30.2	42.5	46.0	543.0	100.3	21.9	111.5	— 323.7 —		1.3
1978[1]	1,127.4	459.2	151.2	344.1	27.4	41.3	39.1	473	91	27	95	— 298 —		3
1979[1]	1,050.0	430.0	148.0	325.0	25.0	40.0	35.0	450	85	25	80	— 290 —		2
1980														

[1] Estimated. [2] Die Casters. [3] Preliminary. *Source: Bureau of Mines*

Zinc Foreign Trade of the United States In Short Tons

	Imported for Consumption							Zinc Ore & Manufactures Exported					
								Blocks, Pigs, Anodes, etc.					
Year	Ores[1]	Blocks, Pigs, Slabs	Zinc Fume	Waste & Scrap	Dross, & Skimmings	Dust, Powder & Flakes	Total Value Thous $	Unwrought Alloys	Unwrought Alloys	Sheets, Strips' or Other Forms	Angles, Bars, Pipes, etc.	Waste & Scrap	Dust (Blue Powder)
1970	450,770	260,132	N.A.	1,497	418	9,359	144,723	N.A.	288	1,412	N.A.	N.A.	N.A.
1971	467,368	324,751	N.A.	1,114	853	8,184	159,779	N.A.	13,346	1,686	N.A.	N.A.	N.A.
1972	174,063	516,643	3,139	814	1,936	9,199	206,191	2,183	4,324	2,419	3,869	1,105	341
1973	154,174	590,751	17,953	1,544	2,328	4,873	304,871	10,574	14,566	2,480	4,503	6,366	666
1974	133,733	543,806	18,235	2,418	3,863	9,131	479,357	18,865	19,062	3,487	9,591	10,936	1,152
1975	428,544	374,922	33,327	1,418	3,158	5,739	399,857	2,730	6,897	1,629	11,466	4,448	603
1976	155,803	695,131	6,927	1,803	12,445	6,009	546,239	1,593	3,513	2,271	7,727	8,171	774
1977[2]	120,457	555,147	257	10,128	12,940	7,388	411,414	991	237	2,681	5,156	8,207	1,023
1978[3]	117,194	686,182	65	3,649	8,199	9,790			797			18,508	
1979[3]	105,000	600,000	50	3,600	6,000	7,000			500			18,000	

[1] Zinc content. [2] Preliminary. [3] Estimate. *Source: Bureau of Mines*

Smelter Production of Slab Zinc[1] in the United States (Includes GSA Metal) In Thousands of Short Tons

Year	Jan.	Feb	Mar.	Apr.	May	June	July	Aug	Sept	Oct	Nov.	Dec	Total
1971	78.6	74.8	81.6	82.6	80.9	72.4	55.3	57.4	51.5	67.5	67.2	70.4	840.2
1972	68.0	61.8	66.6	62.9	68.8	69.3	63.4	62.1	58.4	64.1	63.1	57.0	765.4
1973	61.8	56.1	63.1	60.5	59.6	52.6	55.1	55.3	56.9	57.0	54.6	55.3	687.9
1974	50.4	48.8	52.1	47.7	51.5	48.4	49.2	44.7	46.2	49.9	51.5	49.8	590.2
1975	52.1	45.0	45.1	42.7	34.1	29.7	26.9	28.0	32.2	33.5	35.7	40.9	445.9
1976	45.8	45.3	47.2	46.5	47.5	45.3	45.0	39.9	40.6	46.6	41.2	45.1	536.0
1977	45.6	39.6	43.6	42.9	37.2	31.9	26.8	25.4	26.0	34.2	40.0	40.9	434.1
1978	39.2	33.0	30.4	33.5	35.7	34.5	34.5	37.6	37.3	44.2	42.4	42.6	444.8
1979	45.7	46.1	52.9	51.1	49.9	43.0	44.0	42.0	39.8	46.0	43.4	33.5	537.4
1980	30.5	30.6	34.8	32.1									

[1] Smelter & refinery production from domestic & foreign ores. *Source: Zinc Institute, Inc.*

Domestic Shipments of Slab Zinc[1] in the United States In Thousands of Short Tons

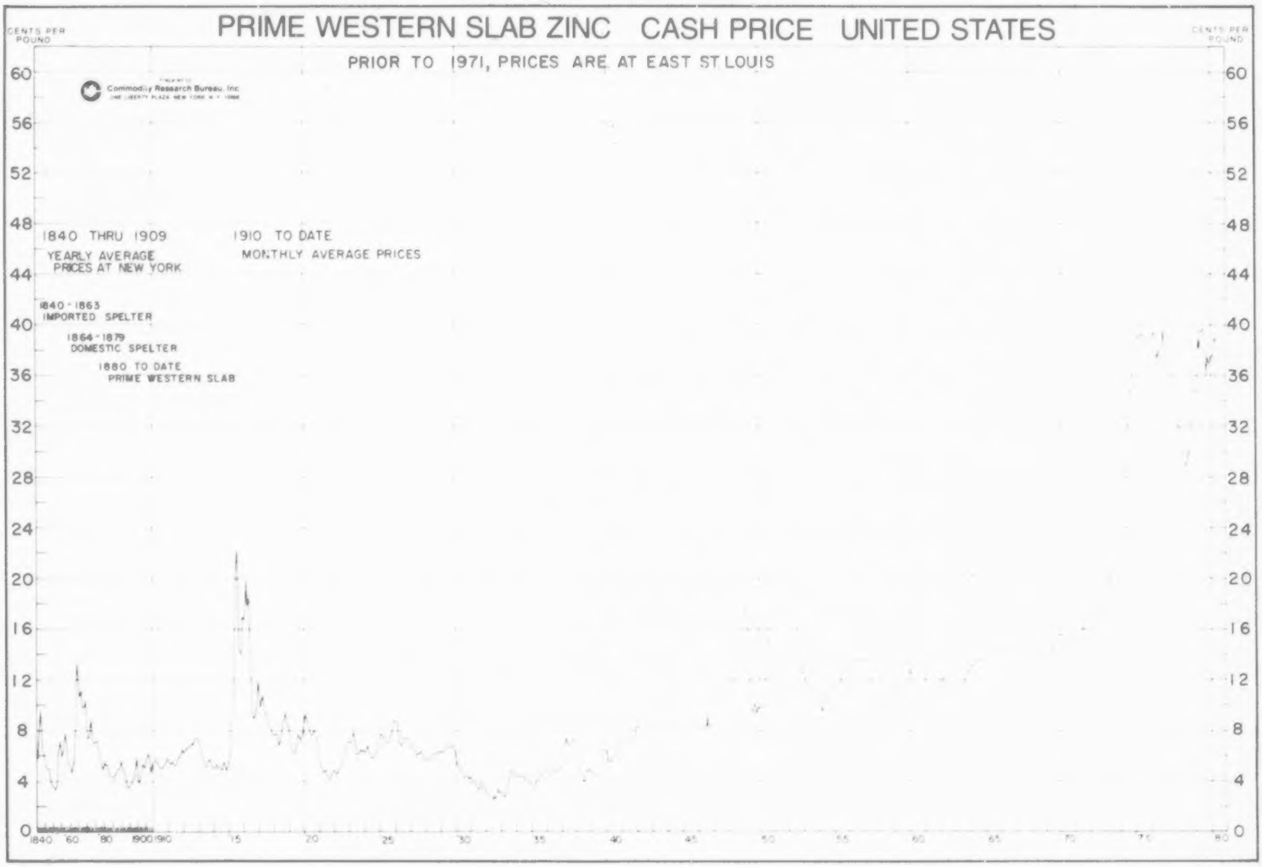
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Total
1971	75.6	80.9	100.4	96.6	83.3	82.5	58.7	59.9	57.2	73.3	65.4	72.7	906.4
1972	67.1	73.5	74.0	68.0	75.5	74.4	63.2	71.4	56.6	65.7	65.0	60.2	814.6
1973	63.6	62.5	67.0	64.8	65.2	58.3	59.2	59.8	55.6	57.8	59.1	53.7	726.5
1974	50.1	57.7	58.3	60.2	63.1	54.0	56.8	55.6	52.0	52.7	45.1	38.3	643.9
1975	30.8	23.6	23.1	35.2	33.8	37.1	44.9	45.0	44.8	40.4	29.0	34.2	421.7
1976	39.8	44.1	54.3	46.0	47.9	43.6	41.2	48.3	46.1	33.0	31.2	39.0	514.6
1977	44.0	45.9	68.9	33.8	26.2	33.5	29.2	35.6	31.0	33.5	35.0	40.4	457.1
1978	40.7	34.5	36.3	40.3	44.8	42.9	35.1	42.0	34.7	47.3	36.4	37.1	472.2
1979	44.2	47.9	53.5	44.1	47.7	44.5	37.4	35.7	40.3	47.3	33.7	37.9	514.3
1980	44.5	44.2	36.8	32.7									

[1] Does not include export shipments & Gov't. account shipments. *Source: Zinc Institute, Inc.*

Stocks of Slab Zinc[1] (at Smelter) in the United States, at End of Month In Thousands of Short Tons

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1971	128.3	119.8	99.4	84.3	80.7	68.5	65.2	62.6	56.9	51.1	52.9	50.6
1972	50.5	37.8	29.4	23.4	21.2	21.3	26.7	23.5	28.0	31.2	32.3	31.8
1973	32.7	31.3	30.4	28.1	24.6	22.2	25.1	27.4	32.3	31.6	29.7	29.3
1974	29.8	25.1	22.9	18.8	17.6	19.1	19.6	18.1	20.3	22.3	30.9	42.9
1975	64.4	86.0	108.0	115.7	116.0	108.6	90.5	73.5	61.0	54.0	60.7	67.4
1976	73.4	74.6	67.5	68.0	67.6	69.3	73.0	64.6	59.1	72.6	82.7	88.8
1977	90.5	84.2	58.9	67.9	78.9	77.3	74.9	64.7	59.7	60.3	65.3	65.8
1978	64.3	62.8	56.9	50.0	40.9	32.5	31.8	27.4	30.1	26.9	32.9	38.4
1979	39.9	38.0	37.5	44.5	46.7	45.1	51.8	58.1	57.5	56.3	66.0	61.5
1980	47.5	34.0	31.9	31.4								

[1] Figures include zinc produced from foreign ores as well as domestic ores. *Source: Zinc Institute, Inc.*



Average Price of Zinc, Prime Western Slab (Delivered U.S. Basis[1]) In Cents per Pound

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Average
1967	14.50	14.50	14.50	14.50	13.65	13.57	13.50	13.50	13.50	13.50	13.50	13.50	13.85
1968	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
1969	13.84	14.00	14.00	14.02	14.50	14.50	14.50	14.50	15.38	15.50	15.50	15.50	14.65
1970	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.33	15.00	15.00	15.00	15.00	15.32
1971[1]	15.00	15.00	15.16	15.50	15.81	16.00	16.21	17.00	17.00	17.00	17.00	17.00	16.14
1972	17.00	17.00	17.26	17.50	17.89	18.00	18.00	18.00	18.00	18.00	18.00	18.09	17.73
1973	18.58	19.25	19.83	20.46	20.63	20.70	20.63	20.63	20.63	20.63	20.63	27.46	20.84
1974	31.18	31.75	32.70	34.75	34.75	35.25	36.97	38.00	38.95	39.00	39.00	39.00	35.94
1975	39.25	39.07	38.75	38.75	38.75	38.75	38.75	38.75	38.75	39.66	38.75	38.75	38.89
1976	37.26	37.00	37.00	37.00	37.00	37.00	37.00	38.75	39.50	37.00	37.00	37.00	37.38
1977	37.00	37.00	37.00	37.00	35.64	34.00	34.00	34.00	34.00	31.74	30.66	30.50	35.21
1978	30.50	30.26	29.00	29.00	29.00	29.95	30.00	31.92	32.75	33.66	34.75	34.75	31.30
1979	35.00	36.90	38.09	39.50	39.50	39.55	39.63	36.82	36.03	37.50	36.88	37.50	37.74
1980	37.50	38.70	38.92	38.50									
1981													

[1] Prior to 1971, prices are for delivered E. St. Louis. *Source: American Metal Market*

Conversion Factors

The following equivalents are among those most commonly used in international agricultural trade:

METRIC EQUIVALENTS

1 meter	(m)	equals	39.37	inches
1 hectare	(ha)	equals	2.471	acres
1 liter	(l)	equals	.9081	dry quarts, or
		equals	1.0567	liquid quarts
1 kilogram	(kg)	equals	2.204622	pounds
1 quintal	(100 kgs)	equals	220.462	pounds
1 tonne	(1,000 kgs)	equals	2,204.622	pounds
			1,000	kilograms
			36.7437	bushels wheat or soybeans
			39.3679	bushels corn, sorghum, or rye
			45.9296	bushels barley
			68.8944	bushels oats

Bushel weights:
Wheat & soybeans = 60 lbs.
Corn, sorghum & rye = 56 lbs.
Barley (grain) = 48 lbs.: malt = 34 lbs.
Oats = 32 lbs.

Bushels to metric tons:
Wheat & soybeans = bushels × .027216
Barley = bushels × .021772
Corn, sorghum, rye = bushels × .025400
Oats = bushels × .014515

1 metric ton equals:
2204.622 lbs.
22.046 hundredweight
10 quintals

Area:
1 Acre = .404694 hectares
1 Hectare = 2.4710 acres

Yields:
Wheat = bushels per acre × 0.6725 = quintals per hectare
Rye, corn = bushels per acre × 0.6277 = quintals per hectare
Barley = bushels per acre × 0.5380 = quintals per hectare
Oats = bushels per acre × 0.3587 = quintals per hectare

APPROXIMATE CONVERSIONS FROM CUSTOMARY TO METRIC AND VICE VERSA

	When you know:	*You can find:*	*If you multiply by:*
LENGTH	inches	millimeters	25
	feet	centimeters	30
	yards	meters	0.9
	miles	kilometers	1.6
	millimeters	inches	0.04
	centimeters	inches	0.4
	meters	yards	1.1
	kilometers	miles	0.6
AREA	square inches	square centimeters	6.5
	square feet	square meters	0.09
	square yards	square meters	0.8
	square miles	square kilometers	2.6
	acres	square hectometers (hectares)	0.4
	square centimeters	square inches	0.16
	square meters	square yards	1.2
	square kilometers	square miles	0.4
	square hectometers (hectares)	acres	2.5
MASS	ounces	grams	28
	pounds	kilograms	0.45
	short tons	megagrams (metric tons)	0.9
	grams	ounces	0.035
	kilograms	pounds	2.2
	megagrams (metric tons)	short tons	1.1
LIQUID VOLUME	ounces	milliliters	30
	pints	liters	0.47
	quarts	liters	0.95
	gallons	liters	3.8
	milliliters	ounces	0.034
	liters	pints	2.1
	liters	quarts	1.06
	liters	gallons	0.26
TEMPERATURE	degrees Fahrenheit	degrees Celsius	5/9 (after subtracting 32)
	degrees Celsius	degrees Fahrenheit	9/5 (then add 32)

Source: U.S. Department of Commerce

The Daily Commodity Computer Trend Analyzer

HELPS YOU OPERATE SUCCESSFULLY IN THE COMMODITY FUTURES MARKETS

The publication **DAILY** COMMODITY COMPUTER TREND ANALYZER is undoubtedly the most useful working tool we know of for daily trend following, which is the basic requisite for successful trading. This unique service identifies existing trends and trend changes for all active commodity futures markets every trading day. This technique employs a strictly mathematical formula for determining trends and trend changes.

Although the original decision models were implemented in 1963, continuous research led to a new series of models with progressively improved results culminating in the most recent program introduced in March, 1975. Besides utilizing all new formulae, the fantastic calculating ability of the computer enabled our research to be customized for each commodity. In effect, the "Trend Analyzer" is made up of a series of models designed to give the maximum performance for identifying trends of each individual commodity.

DAILY COMMODITY COMPUTER TREND ANALYZER is coldly impersonal, completely objective. It rules out emotions—often a speculator's worst enemy; it continuously labels the trend; calculates in advance the level where the trend may change; and can help establish a plan of action.

Each day, after the market closes, pertinent market information is assembled in machine readable form and then a large sophisticated computer performs all of the essential calculations necessary to complete the formula established for each of 200 different futures contracts, and prints out the results in minutes.

The daily report—mailed to subscribers within two hours after the futures markets close—is actually a reproduction of the final computer printout. (For convenience in printing and mailing, the size of the actual printout is reduced in size.) The report consists of two printed pages.

The Daily Commodity Computer Trend Analyzer continuously monitors the market each day:

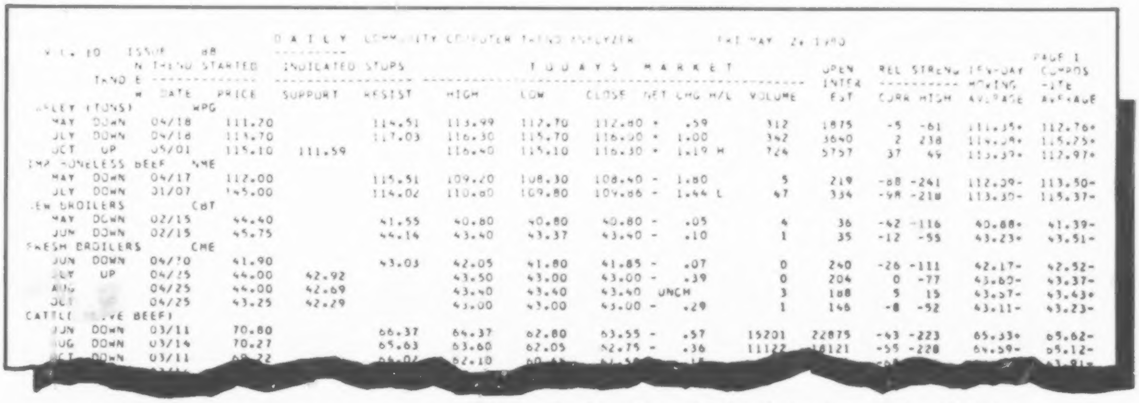
It identifies the existing major price trend

Pinpoints levels in advance where the trend could change

Identifies the trend change on the day it occurs

The illustration below is a reproduction of part of the daily report sent to all subscribers after the markets close for the day. Approximately 200 specific futures deliveries in the top 40 commodity markets are included. Each subscriber is sent a complete explanation of the twelve columns of information appearing in the specimen in a study entitled "Understanding The Daily Commodity Computer Trend Analyzer." The salient points are:

1. **The existing trend—when it started and at what price.**
2. **"Support" and "Resistance" prices. (The price levels which, if penetrated by any day's closing price, will signal a probable change of trend, i.e., stop-loss points for traders.)**
3. **Current Market Data—today's high, low, and closing prices, net change from the previous trading day's close, individual volume and open interest.**
4. **Relative strength—an additional market indicator, explained in the subscriber's manual, "Understanding The Daily Commodity Computer Trend Analyzer."**
5. **Ten Day Moving Average—a short range trend indication.**
6. **Composite Moving Average—A composite of three moving averages, which can be used as a trendline.**
7. **Commodity group indices and technical market indicators.**



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                              D A I L Y  COMMODITY COMPUTER TREND ANALYZER          FRI MAY [illegible]
 VOL. 10   ISSUE   88         ----------                                                                                PAGE 1
            N TREND STARTED  INDICATED STOPS          T O D A Y S   M A R K E T                  OPEN   REL STRENG TEN-DAY  COMPOS
      TRND E --------------  ---------------- ------------------------------------------------  INTER  ---------- MOVING   -ITE
           W   DATE   PRICE  SUPPORT   RESIST    HIGH      LOW     CLOSE  NET CHG H/L  VOLUME    EST   CURR HIGH  AVERAGE  AVERAGE
BARLEY (TONS)        WPG
 MAY  DOWN  04/18    111.20              114.51   113.99   112.70   112.80 +   .59       312     1875    -5  -61  111.35+  112.76+
 JLY  DOWN  04/18    113.70              117.03   116.30   115.70   116.00 +  1.00       342     3640     2  238  114.09+  115.25+
 OCT   UP   05/01    115.10   111.59              116.40   115.10   116.30 +  1.19 H     724     5757    37   49  113.37+  112.97+
IMP BONELESS BEEF    NME
 MAY  DOWN  04/17    112.00              115.51   109.20   108.30   108.40 -  1.80         5      219   -88 -241  112.39-  113.50-
 JLY  DOWN  01/07    145.00              114.02   110.80   109.80   109.86 -  1.44 L      47      334   -98 -218  113.30-  115.37-
NEW BROILERS         CBT
 MAY  DOWN  02/15     44.40               41.55    40.80    40.80    40.80 -   .05         4       36   -42 -116   40.88+   41.39-
 JUN  DOWN  02/15     45.75               44.14    43.40    43.37    43.40 -   .10         1       35   -12  -55   43.23+   43.51-
FRESH BROILERS       CME
 JUN  DOWN  04/10     41.90               43.03    42.05    41.80    41.85 -   .07         0      240   -26 -111   42.17-   42.52-
 JLY   UP   04/25     44.00    42.92               43.50    43.00    43.00 -   .39         0      204     0  -77   43.60-   43.37-
 AUG        04/25     44.00    42.69               43.40    43.40    43.40  UNCH           3      188     5   15   43.57-   43.43+
 OCT        04/25     43.25    42.29               43.00    43.00    43.00 -   .29         1      146    -8  -52   43.11-   43.23-
CATTLE (LIVE BEEF)
 JUN  DOWN  03/11     70.80               66.37    64.37    62.80    63.55 -   .57     15201    22875   -43 -223   65.33+   65.62-
 AUG  DOWN  03/14     70.27               65.63    63.60    62.05    62.75 -   .36     11122    18121   -55 -228   64.59-   65.12-
 OCT  DOWN  03/11                                  62.10
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In addition to the daily reports, up-dated charts of prices, relative strength and composite averages are sent every other week.

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